

MANUFACTURERS RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

Trade-Name Registered in the U. S. Patent Office

VOL. LXXI, No. 3.
WEEKLY.

BALTIMORE, JANUARY 18, 1917.

\$4.00 A YEAR.
SINGLE COPIES, 15 CENTS.

PUBLISHED EVERY THURSDAY BY THE
MANUFACTURERS RECORD PUBLISHING CO.

RICHARD H. EDMONDS, Pres. VICTOR H. POWER, Treas.
FRANK GOULD, Vice-Pres. I. S. FIELD, Sec'y.

RICHARD H. EDMONDS, Editor and General Manager

BRANCH OFFICES:

NEW YORK, 52 Broadway CHICAGO, 1409 Fisher Bldg.
BOSTON, 733 Old South Bldg. ST. LOUIS, 608 Century Building

Subscription \$4 a year (payable in advance) to United States, Mexico, Cuba, Porto Rico, Hawaii and the Philippines. To Foreign Countries (including Canada) in the Postal Union, \$6.50 a year.

[Entered at the Baltimore Postoffice as second-class matter.]

A WALL STREET VIEW OF THE SOUTH'S PROGRESS.

COMMENTING on some statements in the MANUFACTURERS RECORD recently in which we quoted from Financial America of New York, that paper says:

"There are two portions of that article which we would especially emphasize, as indeed the Manufacturers Record has already done. One is the expression of opinion of Mr. Lewis Franklin, a vice-president of the Guaranty Trust Co. of New York, following a tour of observation, that the business men of the North—and we may now add, of the West—while long since realizing the opportunities of the Southeast in lines of great economic advancement, had been possessed of no adequate conception of the ability of the human forces of that region to seize those opportunities; but that now, having become personally acquainted with the men of the Southeast, it was clear that this view had been one of narrow vision. Eyes and minds had been opened to the facts.

"The other point which we would stress is that the Southeast's development has been in large part a matter of native enterprise and hence of a peculiarly substantial kind.

"Those who speak today disparagingly of the South are only giving evidence of their ignorance or prejudice or both. The South, in the past year or so, has passed over the threshold into an era of extraordinary progress along all lines. The prospect is, as we said in our article of a month ago, that the South will rise ere long to a height of prosperity likely to outstrip any other section of the country whose chief industry is the cultivation of the soil. Added to this is the fact that manufacturing activity is rapidly gaining ground in the South. And the men who are today the business leaders of the South are possessed of those qualities of energy, intelligence and foresight which insure substantial and permanent advancement to their section."

OVER \$13,000,000,000 FOR AGRICULTURE IN 1916.

MORE than two months ago the MANUFACTURERS RECORD, basing its calculations on prices then prevailing, estimated that the total value of agricultural products of the United States for 1916 would be at least \$12,000,000,000. These figures seemed high to many, but that they were conservative is now shown by the reports of the United States Department of Agriculture, which gives for crops a value of \$8,934,587,000, and for animal products \$4,338,431,000, or an aggregate of \$13,273,018,000. In 1915 the total was \$10,501,000,000.

The gain this year was \$2,770,000,000, due not to larger crops, but to higher prices. Indeed, these higher prices are largely due to the great decrease in the crop yields of 1916.

Judge Gary Proffers Government All Information United States Steel Corporation Has About Steel Making South.

Judge Gary, chairman of the United States Steel Corporation, in reply to a telegram, wires the MANUFACTURERS RECORD:

"Your telegram received. The questions involved should be considered by competent, impartial, non-partisan Government commission. We are quite willing to give such a commission all information in our possession. We are always inclined to avoid public and political controversies."

This telegram opens the way for a broad and comprehensive investigation, in direct line with the editorial on the subject in this issue, and which was written prior to the receipt of Judge Gary's wire. Judge Gary's telegram is in response to one from the editor of the MANUFACTURERS RECORD, as follows:

"Judge Elbert H. Gary,
"Chairman United States Steel Corporation,
"New York City:

"A question of vital importance to the country, as well as to the South, has been raised by the efforts of selfish interests to antagonize the South as the place for the Government armor-plate plant on the claim that Southern ores are not suitable for the production of steel for armor plate.

"Such statements are necessarily due to ignorance, or else to improper efforts to belittle the steel-making potentialities of the South. The United States Steel Corporation has in Alabama its greatest single asset at any one point in the ownership of 500,000,000 or 600,000,000 tons of ore and a much larger quantity of coal, almost within sight of each other. At that point your company is making high-grade steel and your experts could easily convince the public that you can there produce as fine quality of steel as can be made elsewhere in this country.

"A statement from you to this effect would carry universal conviction. It would do the South limitless good. It would guarantee to the country the possibility of developing in the South and Southwest steel interests commensurate with the future needs of the country for preparation against the possibility of war.

"I believe you will never have an opportunity to do a greater service and show a broader spirit of patriotism for the South and the nation than to make such an announcement and thus forever set at rest all possible questions as to the suitability of Southern ores for the production of the highest grade of steel for every possible purpose. Moreover, such an announcement would show the deep interest of you and your associates in utilizing to the largest extent feasible, whenever the opportunity is open, this wonderful property. Your announcement need not be presented in such a way as to create the impression that you were doing this specifically in the interest of the Birmingham district, but that merely in justice to the whole South you were making this statement and then leaving to the judgment of the Government's experts where the proposed plant should be located.

"I would greatly appreciate the opportunity of publishing in the MANUFACTURERS RECORD such a statement from you.

"RICHARD H. EDMONDS,
"Editor Manufacturers Record.

"Daytona, Fla., January 15, 1917."

The MANUFACTURERS RECORD had already suggested the employment by the Naval Board Committee and by Southern cities of the ablest experts to be had. Directly in line with that suggestion, and of vital importance by reason of Judge Gary's offer, is his suggestion to the effect that this armor-plate site question should be studied by a competent, impartial, non-partisan commission. It is especially important in this connection that Judge Gary expresses his willingness to give to such a commission all information in possession of the Steel Corporation.

In view of the fact that the Steel Corporation is producing steel in the South as well as in the North and West, and that it has a fund of information probably not surpassed, if equalled, by any other concern in the world on steel making, its officials are in a position to render an important service to the country. Producing as this company

is doing nearly one million tons of steel a year in Alabama and many millions of tons elsewhere, and knowing the feasibility of using Southern ores for the production of steel, the information which it could give would be of the greatest importance.

It might be suggested, moreover, that in view of the rapid development of electric steel making and the vast amount of water-power available in the South, the feasibility of the utilization of water-power in the production of steel for armor plate should be investigated by the Government.

Many steel experts are looking to a rapid expansion in the United States of hydro-electric power in steel making and in the production therefrom of the highest grade of steel that can be made. An electric steel furnace is now in operation in Alabama, and a study of what is being done there might help to illuminate the subject and give to the Naval Board Committee information of great value.

With the offer that is made by Judge Gary to give to an impartial, non-partisan commission all of the information on steel making which that great organization has at its command, the organization of such a committee and the investigation of the matter from this standpoint cannot possibly be ignored by the Government.

The information that could be given by Judge Gary and the officials of the Steel Corporation as to the feasibility of making high-grade steel out of Southern ores would not in any sense be specifically in the interest of Birmingham, for whatever testimony was given as to the value of Southern ores would apply to the ores of the whole Central South, and it would then remain for the Naval Board to decide what point in the South offered the largest opportunities for meeting all of the conditions needed for an armor-plate plant.

A Forecast as to Basis on Which Peace Will Be Made.

IN its issue of August 3 the MANUFACTURERS RECORD made some editorial predictions as to when the war would end and how it would end. Friday of last week the newspapers of the country printed the reply of the Entente Allies to President Wilson's recent note, in which he asked for a statement from the warring Powers as to the objects of the war and the terms on which they would consider peace.

The editorial from the MANUFACTURERS RECORD and the outline of the Allies' demands are given herewith in parallel columns. Attention is called to the striking similarity of the main points contained in each.

[From Manufacturers Record, August 3, 1916.]

WHEN AND HOW WILL THE WAR END?

Shortly after the war began the MANUFACTURERS RECORD editorially predicted that it would last at least three to four years, and gave the reasons therefor. We have never seen any justification for changing that view.

Without pretending to any gift of prophecy, the MANUFACTURERS RECORD would offer the following speculative suggestions:

The European war will last two years longer.

Germany and Austria will not only have to pay, as far as money can repay, all that the war has cost Belgium and France, but Germany will lose Alsace and Lorraine and possibly some additional territory. Moreover, they will have to pay an indemnity of not less than ten billion dollars.

Constantinople will fall to Russia, and Turkey will be dismembered and the Turkish power driven out of Europe.

The Hohenzollern and Hapsburg dynasties will be blotted out, and the men of these families who at the close of the war are living will probably be imprisoned for life and perhaps some of them may be executed.

Many of the officials responsible for murder in the killing of the English nurse and others will have to pay the penalty with their lives. It will then be too late to appeal for mercy. They showed no mercy, and we doubt if any mercy will be shown to them. The leaders who took the sword in the campaign to conquer Europe will themselves perish by the sword.

In the end, Germany will become a republic and the good people of that country will rebuild its prosperity and its humanity and seek to atone for the horrors which have been brought upon the world by Kaiserism and Prussian militarism, and then friendship of European people will take the place of present hatred.

These are suggested merely as speculative predictions. Two years hence we may be able to see how nearly we forecasted the future.

[Statement of Entente Allies as to objects of the war.]

But the civilized world knows that they imply in all necessity and in the first instance the restoration of Belgium, of Serbia and of Montenegro and the indemnities which are due them.

The evacuation of the invaded territories of France, of Russia and of Roumania, with just reparation.

The reorganization of Europe guaranteed by a stable regime and founded as much upon respect of nationalities and full security and liberty (of) economic development, which all nations, great or small, possess, as upon territorial conventions and international agreements suitable to guarantee territorial and maritime frontiers against unjustified attacks.

The restitution of provinces or territories wrested in the past from the Allies by force or against the will of their populations.

The liberation of Italians, of Slavs, of Roumanians and of Tcheco Slovaks from foreign domination.

The enfranchisement of populations subject to the bloody tyranny of the Turks.

The expulsion from Europe of the Ottoman Empire, which has proved itself so radically alien to western civilization. The intentions of His Majesty, the Emperor of Russia, regarding Poland have been clearly indicated in the proclamation which he has just addressed to his armies.

It goes without saying that if the Allies wish to liberate Europe from the brutal covetousness of Prussian militarism, it never has been their design, as has been alleged, to encompass the extermination of the German people and their political disappearance.

That which they desire above all is to insure a peace upon the principles of liberty and justice, upon the inviolable fidelity to international obligation with which the Government of the United States has never ceased to be inspired.

law which prevails in Government work is without foundation. It is said that some of these concerns feel that the establishment of a Government-owned plant, operating eight hours a day, would upset labor conditions, and that, therefore, instead of co-operating to secure the plant, there is a quiet disposition on their part against its coming to Birmingham.

If this be true, it is an indication of short-sighted-

ness which we would not have expected to find among leaders in the iron industry at any point in the South. It would be a purely selfish concern for individual prosperity, without regard to sectional prosperity or national safety. It would be putting their own personal comfort and convenience as to the labor question ahead of the things which make for broad development of a country and for the safety of this country in time of war.

If anybody in Birmingham has been so short-sighted as to take this position, it is to be hoped that he will see the error of his way and change before it is too late.

There was a time when a number of cotton-mill men in the South were bitterly opposed to the establishment of new mills in this section. Some of the sharpest criticisms which the MANUFACTURERS RECORD ever had were from some Southern cotton manufacturers who took the ground that in advocating the building of cotton mills in the South we were doing the section and the industry harm, because every mill established increased the demand for labor, and that these manufacturers did not want any competition for labor. A New England cotton manufacturer who was preparing to build a big mill in the South took the MANUFACTURERS RECORD to task and seriously asked the writer not to favor the building of other mills in the South. "There is," said he, "a great deal of cream in the business at present, and I want to get some of this cream. If more mills are built, as you advocate, it will increase the demand and advance the price for labor, and instead of cream we shall have to be content with skimmed milk."

The reply to this was that the MANUFACTURERS RECORD was fighting for the broad development of the South and for the creation of industries that would furnish employment to the people, and that the manufacturers and capitalists interested in cotton mills were abundantly able to take care of themselves, but that the MANUFACTURERS RECORD did not propose to be a party to suppressing the building of new mills merely to permit those in existence and those which this New Englander and some others were planning to build to have the privilege of an abundant supply of "cream."

Another cotton-mill man, in his day one of the foremost manufacturers of the South, in a letter to the MANUFACTURERS RECORD vigorously opposed an invitation which we had extended to the cotton manufacturers of Great Britain to visit the South and study cotton growing and the possibilities of cotton manufacturing. In his letter he said that the cotton manufacturers of Great Britain were the ablest merchants in the world, and that if some of them should establish mills in the South they would be very serious competitors with existing mills, and he expressed the hope that we would discontinue the effort we were then making to interest a large number of English cotton-mill people to visit the South. Needless to say, his advice was not followed. The invitation was pressed, and many English manufacturers did come South.

The narrowness thus displayed by a few cotton-mill people, although they were men of pronounced standing in the industry in the South, would find apt followers in the Birmingham district if it should prove to be true that any men in Alabama or elsewhere in the South are either quietly or aggressively opposing the establishment of an armor-plate plant or of any other Government plant in the South for fear that an eight-hour labor day would interfere with their individual operations.

If the statement had not come so specifically to us from what ought to be an entirely responsible source in Washington, we would be inclined to doubt the possibility of its correctness.

No iron manufacturer, it matters not how large or small his business may be, should not for one moment permit his own individual interests, or those of his company, to influence him to discourage the building of Government plants in the South, and we are not yet quite ready to accept the statement that there is in Alabama a man so short-sighted as to put the fear of a change in labor conditions by virtue of the building of a Government plant against the vital necessity to the country of the establishment of such plants in the Central South.

IS THERE A SELFISH OPPOSITION IN THE SOUTH TO A LOCATION THERE OF THE GOVERNMENT ARMOR PLANT?

WE trust that the rumor which is heard in Washington to the effect that some of the iron concerns in the Birmingham district are opposed to the location in that section of a Government armor-plate plant because of the eight-hour

The South's Amazing Agricultural Wealth

LARGEST COTTON VALUE EVER RECORDED, BUT IT IS ONLY ONE-THIRD OF THE SOUTH'S TOTAL OF AGRICULTURAL PRODUCTS FOR 1916.

The total value of the South's agricultural products, including animal products, in 1916 was over \$4,650,000,000, or only 8 per cent. less than the total for the United States in 1900, which was \$5,009,000,000. The South's population is about 35,000,000; the population of the United States in 1900 was 75,900,000.

The total value of the South's crops, omitting livestock, in 1916 was \$3,658,302,000, a gain of \$1,072,280,000 over the \$2,586,022,000 value of 1915. This was a gain of 41.4 per cent.

This value was made up as follows:

Cotton	\$1,079,598,000
Cottonseed	278,233,000
Total for cotton.....	\$1,357,831,000
Corn	\$919,593,000
Wheat	212,346,000
Oats	111,243,000
Rice and other grains.....	40,187,000
Total grain.....	\$1,283,369,000
Hay (cultivated).....	\$178,387,000
Tobacco	127,426,000
Potatoes, white.....	81,475,000
Potatoes, sweet.....	53,206,000
Hay, tobacco and potatoes.....	\$440,494,000
Livestock products (over).....	\$1,000,000,000
Miscellaneous crop of diversified agriculture, fruits, vegetables, etc.....	\$568,306,000
Grand total of South's agricultural products for 1916.....	\$4,650,000,000

The value of crops in all other sections than the South was \$5,276,285,000, or a gain of 26.3 per cent. over the value of \$4,182,576,000 in 1915, as compared with the South's gain of 41.4 per cent.

The South's crops, this section having one-third of the country's population, gained in value \$1,072,280,000, or almost exactly one-half of the total gain of the whole country, which was \$2,165,989,000.

Nearly 41 per cent. of the entire crop value of the United States in 1916 was produced in the South, notwithstanding the very high prices the Western farmers received for their grain.

This crop value of the South exceeds by nearly one hundred million dollars the crop value of the United States in 1902, and is only 10 per cent. less than the crop value of the whole country in 1905.

Exact statistics as to the value of animal products for 1916 by States are not yet available, but the total for the country was \$4,338,431,850, and as the South annually has about one-third of livestock, this would give to the South over \$1,000,000,000 for livestock for 1916, which added to crop values give a total of \$4,650,000,000 for the South's agricultural products for 1916—a truly amazing showing indicative of what the future is to show in this section.

The value of the South's cotton crop of 1916, including seed, was \$1,357,831,000, as given by the United States Department of Agriculture. The total value of all diversified farm products was \$3,292,169,000. Notwithstanding the high prices paid for cotton, the value of that crop was less than 30 per cent. of the total of the South's agricultural income last year, and was but little more than the value of the South's grain crop alone. The South brought over from previous crops about \$300,000,000 of cotton, which will be marketed during the crop year, thus still further adding to the agriculture income of this section.

The total value of all crops (which does not include livestock products) for 1916 and 1915, based on prices ruling on the farms on December 1, as estimated by the United States Department of Agriculture, was as follows:

ESTIMATED VALUE OF ALL CROPS ON BASIS OF DECEMBER 1 PRICES BY UNITED STATES DEPARTMENT OF AGRICULTURE.

	1916.	1915.	1914.
Ala.....	\$158,469,000	\$158,260,000	\$152,340,000
Ark.....	250,511,000	147,704,000	112,168,000
Fla.....	60,495,000	43,122,000	47,329,000
Ga.....	348,924,000	234,147,000	198,932,000
Ky.....	219,821,000	147,004,000	144,299,000
La.....	182,845,000	112,940,000	104,463,000
Md.....	87,001,000	55,082,000	59,574,000
Miss.....	190,674,000	150,327,000	128,605,000
Mo.....	260,049,000	239,399,000	227,036,000
N. C.....	274,435,000	197,185,000	173,497,000
Okla.....	223,723,000	171,774,000	159,713,000
S. C.....	192,468,000	148,627,000	131,653,000
Tenn.....	220,888,000	145,977,000	138,255,000
Tex.....	684,851,000	412,826,000	351,628,000
Va.....	215,886,000	152,703,000	104,218,000
W. Va.....	87,262,000	68,945,000	56,430,000
Total.....	\$3,658,302,000	\$2,586,022,000	\$2,290,140,000

As compared with 1914 these crop values for 1916 show a gain of \$1,368,162.

Owing to floods which destroyed

the crops in some parts of the State and to the boll-weevil destruction of much cotton, Alabama shows almost exactly the same total value for 1916 as for 1915, notwithstanding the high prices ruling. Every other State in the South, however, shows a heavy gain. In Arkansas there was a gain of \$102,800,000, in Florida \$17,300,000, Georgia \$114,800,000, Kentucky, \$72,800,000, Louisiana \$70,000,000, Maryland \$32,000,000, Mississippi \$40,300,000, Missouri \$21,000,000, North Carolina \$77,000,000, Oklahoma \$52,000,000, South Carolina \$44,000,000, Tennessee \$75,000,000, Texas \$272,000,000, Virginia \$37,000,000 and West Virginia \$20,300,000.

The agricultural development of the South may be strikingly shown by a comparison of seven Southern States with seven typical rich Western States. Here are the figures for the value of all farm products in 1916 as reported by the United States Department of Agriculture:

7 Southern States.	Value of farm products, 1916.	7 Western States.	Value of farm products, 1916.
Va.	\$215,000,000	Ohio	\$281,000,000
N. C.	274,000,000	Ind.	285,000,000
Ga.	348,000,000	Ill.	478,000,000
Ky.	219,000,000	Mich.	233,000,000
Tenn.	220,000,000	Wis.	254,000,000
Tex.	684,000,000	Minn.	269,000,000
Ark.	250,000,000	S. D.	190,000,000
Total.....	\$2,210,000,000	Total.....	\$1,990,000,000

In 1916 these seven Southern States produced of agriculture \$220,000,000 more than the seven Western States named, and yet some people are still harping on the South being non-progressive and its agricultural interests as behind the times. It is true that much remains to be done, but these figures show that the South even now is doing much.

Last year was a record-breaking year for short crops throughout the country and also in other lands. The total decrease in the grain crop of the United States as compared with 1915 was over 1,200,000,000 bushels. The South shared in this decline in grain, but only to the extent of 317,000,000 bushels, or but a little over one-fourth of the falling off in the whole country. The production of grain in 1915 was a fair measure of the South's growing interest in diversified farming, as the

crop of that year showed a gain of 328,000,000 bushels over 1914.

The total grain production of the South for the three years under review was:

Bushels.	1916.	1915.	1914.
Corn	951,134,000	1,193,407,000	947,104,000
Wheat	125,642,000	169,084,000	169,055,000
Oats	173,199,000	215,299,000	138,381,000
Buckwheat...	1,613,000	1,850,000	1,693,000
Barley	1,296,000	1,479,000	1,223,000
Rye	3,120,000	3,340,000	3,027,000
Rice	37,439,000	26,679,000	22,849,000
Total	1,293,443,000	1,611,138,000	1,283,332,000

"A DISTINCTION WITH A DIFFERENCE."

FEW papers in America have had a clearer insight into the truth of the fact that "where a moral issue is at stake neutrality becomes immorality," as stated some months ago by Theodore H. Price of New York, than the Religious Herald of Richmond, Va. That paper has, from the beginning of the European war, clearly seen the right from the wrong and has ever been ready to express its convictions in a way which could have been followed wisely by many other religious papers in America.

In its issue of January 11, under the heading, "A Distinction With a Difference," the Religious Herald discusses this situation so clearly that we reprint its statement because many people in this country have been made blind to the truth and have ignored the great moral issues involved. On these points the Herald says:

"Evil is wrought by want of thought
As well as want of heart."

It is perfectly possible for well-meaning people in both high station and low station to work indefinite harm by blindly or short-sightedly urging a speedy conclusion on any available terms of the great European war. The New York Times, just as we think, characterizes this attitude of mind as essentially immoral. It proceeds upon the theory that peace is the one supreme thing to be desired and sought, without regard to right or wrong, to justice or injustice, to enlarged liberty or to practical tyranny.

It is not easy for men who love their fellow-men and who grieve over the waste and death spread far and wide in the warring countries to refuse to join in any organization looking toward the suppression of armed strife. Among thoughtless people, and even among those who think superficially and who are moved more by emotions and impulses than by sound judgment and clear reflection, such a refusal puts one on the defensive. Yet the time is at hand when those who love righteousness and in a corresponding degree hate iniquity, when those who believe profoundly in democracy, should not hesitate, whatever may be the momentary condition of the public mind, to decline to take part in any movement or organization which looks toward a mere patching up of the deep-seated and tremendous differences that lie behind this great world-struggle. President Wilson's note does not say, and it is unfair to quote him as saying, that all the parties to this great conflict have the same aims and the same spirit. He was careful to modify this in a most important way. Yet, despite the modification, the whole tone of his note is such as to create the impression that he, at any rate, does not find any irreconcilable differences in their purposes and spirit. Such an impression certainly has gone abroad. But the differences are tremendous. Belgium and Germany are not in this war for the same reasons. One suffers wrong, the other commits it. England and Germany cannot be justly put in the same class. France, whose bitter sacrifices have challenged the admiration of the world, can be charged with nothing more than a brave and steadfast resistance to the occupation of her own territory by an alien and a hostile people. In the name of all that is good and true, that is clean and upright, let us clear our minds of all misconception. There is not a thoughtful man who gives the least attention to this business who does not know that the signal triumph of German arms would be nothing short of calamitous to the whole world. And this not only because of the truculent and overbearing temper of the dominant forces in Germany, but also and mainly because the ideals of that powerful nation, the temper and spirit which have controlled her action in entering the war and which have marked her methods in its conduct, are radically opposed to all that we include in our larger use of the sacred words, democracy and liberty.

It is true, as President Wilson says, that mankind longs for peace, but not for peace bound up with tyranny and cruelty, with cynical contempt for the decent opinions of mankind and with flagrant disregard of moral distinctions and sanctions that lie at the very foundation of organized society.

"PAUL M. WARBURG AS AN AID TO GERMAN DIPLOMACY"—"SOME REMARKABLE STATEMENTS BY THE OUTLOOK."

*** A correspondent of the Outlook, a well-known lawyer of New York city, who is thoroughly familiar with the attitude not only of French public men, but of French public feeling, informs us that there is unexpressed but very deep resentment in France against the action of the Federal Reserve Board taken during the last week in November against the short-term Treasury notes offered for sale by the French Government and the British Government in the United States. The Federal Reserve Board officially advised the banks of the country not to invest in these treasury notes, and thus gave an implied warning to American investors to be on their guard against the securities of the Allies.

The French as well as English critics who take this ground point out the fact that one of the most influential members of the Federal Reserve Board is Paul M. Warburg, who became a member of the board on July 31, 1914. At that time he had been a partner in the firm of Messrs. Kuhn, Loeb & Co. for some twelve years, prior to which he was a partner in the firm of Messrs. M. M. Warburg & Co., the most prominent bankers of Hamburg. When he retired from Messrs. Kuhn, Loeb & Co., on joining the Federal Reserve Board, he also officially retired from the house of Warburg in Hamburg. But the head of the latter house is Max M. Warburg, a director of the Deutsche Bank, who is the elder brother of Paul M. Warburg. The German firm of Messrs. Warburg has been prominent in the negotiation of all the German war loans.

Paul M. Warburg became a citizen of the United States in 1911. In 1912 the German Kaiser decorated him with the Order of the Prussian Red Eagle for services rendered by him to the country of his origin in the field of finance. This is the ground of much French criticism of the disapproval, expressed by President Wilson and his administration, of loans to the Allies on the part of American bankers.

British critics say that not long before the outbreak of the war Count Bernstorff, the German Ambassador, in conversation with a high British official, referred to Paul M. Warburg as a highly esteemed financial adviser of the German Government. That Mr. Warburg is known to his friends as a strong sympathizer and partisan of Germany they do not object to. But they do object to the efforts which they claim he made in October, 1914, to block American credit to the Allies. Our informant states that the Allied Governments regard Mr. Warburg as the most powerful auxiliary of German diplomacy here.

The foregoing criticisms come from sources too responsible to permit their being waved aside as mere journalistic rumors. They contribute not a little to a proper understanding of the surprise, not to say resentment, with which the President's note has been received in France and England.

The foregoing statement is being published by a number of Eastern papers. Just why these facts should be called "remarkable" we do not know, for the MANUFACTURERS RECORD was under the impression that all of these statements were so generally known, especially by all newspaper people, that they should no longer be designated as "remarkable."

To these statements, made by the Outlook, might be added the following, which should also be generally known, even if they are not:

At the time when Mr. Warburg was nominated for the position of chairman of the Federal Reserve Board the most remarkable newspaper campaign which we have ever seen in behalf of the nomination or the confirmation of any man in public life was carried on throughout the country. At the time it was being done any man knowing the situation could only surmise that some very unusual influence was at work to put Mr. Warburg into that position, and that this influence was sufficiently strong to get the foremost newspapers of the United States to vigorously and aggressively editorially advocate his confirmation. At the same time it seemed to the MANUFACTURERS RECORD that many of these papers, while doing it innocently, were certainly being vigorously "worked" by some very powerful influence. If anyone wants to study this situation, he need only turn back to the files of all the leading daily papers of New York and of the country generally at the time when the Senate was considering the confirmation of Mr. Warburg to be amazed at the vigor with which the newspapers of all sections and all parties were urging his confirmation.

The question may well be asked, Who was back of this work and what was the influence sufficiently powerful to carry on such a newspaper propaganda?

Was Germany, at that time looking ahead to the war for which it was preparing, able to control so

large a newspaper influence in this country for the purpose of putting Mr. Warburg into the chairmanship of the Federal Reserve Board?

It was stated by a number of newspapers at that time that Mr. Warburg, out of pure patriotism to a country of which he had only been a citizen since 1911, in giving up his connection with the firm of Kuhn, Loeb & Co. was giving up an annual income from his interests there of \$500,000 in order to accept a position on the Reserve Board with a salary of \$12,000 a year. The emphasis which was laid on this point was sufficient to have aroused some suspicion in the minds of the people, but none of the daily newspapers, so far as we know, ever raised a question on that point. On the contrary, most of them were boundless in their commendation of Mr. Warburg's patriotism in being willing to surrender so large an income for so small a salary, relatively speaking.

We presume that it is fair to the other members of the Reserve Board to suggest that Mr. Warburg has more international financial experience than all of the others combined, and that his association with his own firm of Warburg & Co. in Germany and with the great house of Kuhn, Loeb & Co. here has placed him in the most intimate relationship with the financial operations of Germany and other countries. Certainly no other member of the Board has had any such experience in international financial affairs, and if Mr. Warburg possesses the trend of the German mind and its dogged determination to see only its side of the case, it would be natural to suppose that he has been able to exert a very great influence in the deliberations of the Board and doubtless often shaped them entirely to his own way of thinking.

Some weeks ago, when the Reserve Board made its rather spectacular criticism of the proposed issue of the securities of the Allies, the MANUFACTURERS RECORD stated that whether so intended or not, this action and the way it had been put was distinctly pro-German and anti-Ally. If Mr. Warburg had been the sole controlling mind in the Federal Reserve Board, the action of the Board in that case could not have been more pronouncedly against the Allies and their credit than the statement as issued and the way in which it was issued.

It is hardly necessary, in view of these facts, to suggest that Germany has many devious ways in which to carry on its work, and that its plans were being worked out long before the war actually began.

The MANUFACTURERS RECORD knows nothing personally in regard to Mr. Warburg. It simply draws its own conclusions from the facts stated. If he has not in any way whatever influenced the Federal Reserve Board to pro-German views, it is to be regretted, for his sake and that of the Reserve Board, that the indications all point the other way.

We should be glad to give him credit for absolute sincerity of conviction and genuine patriotism for this country to be able to accept the statements made at the time of his confirmation that wholly out of patriotism to America he was giving up an income of \$500,000 a year to accept one of \$12,000. But even if he should receive full credit for such patriotism, the MANUFACTURERS RECORD has never been able to understand why any foreigner so new to our country and at that time so new a citizen should have been made the head of a Board which was clothed with greater power for good or evil than was ever given to any seven men in the financial world by this or any other Government.

SOUTHERN SHOES ABROAD.

IN competition with shoe manufacturers of the world, the Beasley Shoe Co., Inc., Lynchburg, Va., a Southern firm of only ten years' age, secured an order for two carloads of shoes to be shipped to Belgium for the civil populace. At its inception this firm adopted a trade-mark slogan, "Beasley Shoe Co.'s Shoes Satisfy," the company's attempt to live up to which evidently has not been in vain, as the business has grown steadily until last year its sales considerably exceeded a million dollars.

Importance of Armor-Plate Site Question Demands Highest Expert Knowledge by Naval Board.

FROM one of the foremost metallurgical experts of the United States the MANUFACTURERS RECORD has received a letter in regard to the circular inquiry sent out by the Naval Board asking about pig-iron from "red ores," from which we take the following:

"I have reason to know that the action of the Navy Department in getting out the circular it has gotten out has not been any primary antagonism to the South, but is an expression of the want of exact knowledge on the subject on the part of those in charge of the proposition. Not knowing definitely, they are afraid they may be led into some mistake, and having gotten the impression that what is known as the 'red ores' were the only ores which had been used for the making of armor plate in this country, they are trying to protect themselves against any mistake by requiring that the same sort of ores should be used.

"If brought strongly to their attention the board will eliminate unnecessary and immaterial requirements which have probably slipped in by mistake, or the board will be willing to give the public satisfactory reasons for including them. The color of the ore and the location where found has nothing to do with the quality of iron produced."

It is greatly to be regretted that it is possible for statements such as the foregoing to be made, and yet they are directly in line with the position taken by the MANUFACTURERS RECORD last week. The committee having this matter in charge displayed great and grave lack of knowledge of the subject about which they were asking information, or else they permitted outside interests to dictate the form of the question, and the latter we cannot for a moment believe.

These men are doubtless not at all familiar with the actual details of iron and steel making. It is altogether probable that none of them have ever had any practical or even thorough theoretical experience in the iron and steel business. Evidently they are not at all familiar with the character of ores found in the South and elsewhere, nor with the method of producing steel of high grade, regardless of the character of the ore. They are apparently not familiar with the fact that the production of Bessemer steel in this country is relatively declining, and that basic steel can be manufactured from all of the ores of the South.

The Lake Superior district, which was once the stand-by of the Bessemer steel-making interests, no longer has a dominant position, because even the users of Lake Superior ores have been supplanting their Bessemer steel plants with basic plants.

Germany was the first country to largely develop the basic steel industry, because its ores were not suitable for the Bessemer steel, but nobody for a moment suggests that Germany does not make the highest grade of steel for armor plate and for all other purposes.

In the early days of the Bessemer steel business those who controlled that industry bought up the patents on the basic steel process for the express purpose of preventing the development of the basic industry in competition with their own Bessemer plants. Not until these patents had expired did the non-Bessemer ores of the country come into their rightful heritage. Today the best steel made in the United States, and the highest grade steel rails, commanding a higher price than Bessemer rails, are made by the basic process, which is open to

everybody, and which entirely does away with the dominance of the industry once held by Lake Superior Bessemer ores.

These facts are apparently not understood by the Naval Board committee charged with the selecting of a site. The question sent out by this committee would never have been promulgated except through ignorance of these points.

We believe the statement already quoted, from one of the nation's foremost metallurgists, that these inquiries were put forth not by "any primary antagonism to the South, but that they are the expression of the lack of exact knowledge on the subject." In this case, however, lack of knowledge in a matter so vital may be fraught with very serious consequences to the country.

The members of this committee are not culpable because they have not known these facts, since their line of study and work has not led them into a knowledge of steel making, but they will be culpable if in their personal ignorance on the subject they fail to call to their aid the best experts which can be had. And these experts must be representative men, knowing the ores of the South thoroughly, and knowing what is being done in the production of high-grade steel in the South. These experts should be men sworn to give the exact facts and able to show what is now being done in the South and what is being done with similar ores in Germany, England and elsewhere. The biased testimony of interests identified with the Lake Superior ores or with foreign ores should not be accepted, and the testimony of these men when called to report their views should, like the testimony of others, be given under oath.

The matter is of such vital importance that no man should be called into this investigation or into a report on the subject as experts of the board who is not willing voluntarily to give his testimony under oath, since there is probably no law to require this.

We do not for a moment charge this committee with the intentional antagonism to the South or the Southwest, but we are compelled to charge it with lack of knowledge if the inquiry set forth is an expression of its information on the subject.

We believe that in the broad interests of the whole iron and steel business of the South, and of the welfare of the country, the various towns which are specifically interested in securing the armor-plate plant should unite and employ as their representatives to appear before the board in Washington the ablest experts that can be had, men whose reports would carry weight everywhere.

This should be done by the experts before the committee of the board leaves Washington with a view to studying the advantages of the various locations mentioned. The members of this committee, we are sure, are open to conviction and will welcome all expert testimony that can be given them; but this should be done before they leave on their tour of investigation so that in advance their minds may be entirely disabused of the error into which they have apparently fallen.

This is a question that must be settled, and not by political pulls. Some of the statements made before members of the committee by politicians are as absurd as the supposition carried in the committee's inquiry that no armor plate can be made except it be made from "red ores." Some of these

politicians, in their eagerness to secure the plant for their own towns, have displayed lamentable ignorance about the whole situation and about steel-making questions. This work is calculated to befuddle the committee rather than to help it.

The question is one which cannot and should not be settled by politicians. It should be settled on its merits, without political influence pulling this way or that, or without the influence of vested interests in the iron and steel plants of the East and West endeavoring to create false impressions as to the ability of the South to produce the highest grade of steel suitable for armor plate or any other work into which steel enters.

THE REBIRTH OF GREAT BRITAIN AND ITS MEANING.

AMONG the miracles wrought by mankind, nothing in human history seems more amazing than the marvels worked during the last two and a half years in transforming Great Britain from a peaceful country absorbed in its own affairs, with many of its people given largely to pleasure, into the world's most wonderful machine, which now throbs with an intensity and energy and effectiveness never before known in any land.

The story as reprinted in this week's issue from the Boston News Bureau of the change in the mental atmosphere of Great Britain as well as in the physical conditions that make for success in war and success in business should be carefully studied by every American. We have talked about England "muddling" its way through; we have talked about England as though this country expected to take from London its financial supremacy, as though we expected to capture Great Britain's foreign trade and to dominate the world's commerce, and many of our people have seemed to think that, absorbed in war as Great Britain is, that she has not had time to look after her foreign trade. As a matter of fact, England has been expanding her foreign trade. She has not only been maintaining her commerce throughout the world, but she has been pushing into old and new fields with greater energy and greater success during the last two years than have we of this country.

Our commerce has increased almost wholly by reason of the demand from Europe upon us for war supplies. We have done very little in expanding the peaceful commerce in neutral countries, in Asia or in South America. The growth of our foreign trade, except in war munitions, has been triflingly small, and much of that increase is due to higher prices rather than to larger quantity.

In the meantime, England has absolute domination of the seas of the world. She has swept the commerce of her enemies from every ocean. She has kept on launching new ships of commerce while building up her navy. Indeed, it has been claimed that England has made a net increase in her navy since the war as great as our total navy at present. Whether this be true or not, it is not far away from the facts.

No more striking illustration has been given of what England is doing than the recent bid of an English munition plant, controlled as, of course, all munition industries are now controlled, by Government authority, in underbidding American plants for supplying the United States Government with 16-inch shells. The indications seen in this bid, that England has an abundant supply of such shells available for the longest and hardest of naval warfare, and is now willing to permit its plants to furnish shells to the American Government, is somewhat typical of the conditions prevailing throughout that Empire.

It is our duty to ourselves to face these facts and to study the illuminating story as given by the Boston News Bureau. It is a marvelous picture which has been drawn of the mighty business and fighting machine that has been created, and of the rebirth of a nation in power and strength vastly greater than at any time in its past.

HEROICALLY BATTLING FOR HONOR AND ALL CIVILIZATION.

[From New York Herald, January 14.]

ALL civilization should breathe easier and every lover of right, every believer in honor above ease, every true-hearted man in all the world should rejoice and take courage, because the great countries united as allies against barbarism have given an answer to President Wilson's note which shows their willingness to sacrifice blood and treasure in behalf of all civilization.

They are bearing the burden, they are paying the fearful price for the maintenance of civilization, which is as essential to us as to them. In fighting their battles they are fighting ours.

Germany wilfully entered upon this awful war of aggression. Germany chose to throw honor to the winds, to trample upon all human rights, because Emperor William and his followers thought they could play the international highwayman and overrun the world. Like the criminal who has been caught, they feel the halter draw, and now they plead for peace, hoping to escape without paying the price of their evil doing. They are boasting that there is no truth in the divine statement that your sins will be sure to find you out.

If the world's greatest international criminal should, from sickly sentimentality of the world, be allowed to secure peace now, except on the righteous but drastic terms of the Allies, civilization would never again be safe. The Allies have clearly stated the case in a reply which will forever stand as a great State paper.

In view of the fearful burden the Allies are carrying, in behalf of honor and civilization, it would be supreme folly for our country to claim that as a neutral we are suffering by the continuance of the war. On the contrary, we are being vastly enriched by it. Our prosperity is blooming abundantly because it is being fertilized by the life-blood of the millions of men who, in the armies of the Allies, are giving their lives to maintain civilization, to suppress red-handed murder, and to make life worth living for the generations to come.

To the Allies the people of this country should give unstinted moral support and make known our hearty appreciation of their stand for international righteousness, or otherwise we shall show that we have lost our love of liberty, our willingness to sacrifice comfort for honor, and indicate that we are becoming a spineless race, preferring peace to honor and our comfort to righteousness.

This nation should make known to the Allies that it stands with head uncovered before men who heroically prefer to stand where they do, as voiced by their joint note to President Wilson.

RICHARD H. EDMONDS,
Editor Manufacturers Record.
Daytona, Fla., January 11, 1917.

REPENT AND BE SAVED.

609 Laura Street,
Jacksonville, Fla., January 8.

Editor Manufacturers Record:

There is as much Satan in English as in German history, and most people in this country know it. You will do well to conduct your editorial page accordingly.

Truly,

W. H. HILLER.

It is true that the Devil has had too much to do with all human history since he tempted Eve in the Garden of Eden, and we have no apologies to make for his sins wherever or by whomsoever committed; but for the last two and a half years he seems to have transferred himself into the person of Kaiser Wilhelm, whose deluded followers have unfortunately been led by him, just as all who are controlled by Satan follow him blindly until their eyes are opened and they repent of their sins. The people of Germany will yet repent in sack cloth and ashes for the fearful crimes their country has committed against God and man. Moreover, they would repent these crimes even if they were to win the war. The blood guilt is upon them, and they know it and feel it.

SIX THOUSAND DOLLARS FROM FIVE ACRES OF FLORIDA CELERY.

S. A. EDMONDSON of Manatee county has just received \$6000 cash for five acres of celery, with prospects of getting more when the crop is harvested. How's that for swatting old H. C. of L.?—Tampa Times.

Wrong. That is no swat of High Cost of Living. It only proves the high cost of celery and the splendid yield to enable a farmer to rake in \$6000 of cash from five acres of celery. If Sanford doesn't look out, Manatee county will be claiming the celery banner.

Crop Yields by States in the Southern States.

TO ENABLE OUR READERS TO STUDY THE CROP STATISTICS OF THE SOUTH WE PRESENT THE FOLLOWING TABLES:

CORN PRODUCTION AND FARM VALUE IN SOUTHERN STATES.

	Production (Bushels).			Farm Value December 1.		
	1916.	1915.	1914.	1916.	1915.	1914.
Ala.	46,688,000	66,300,000	55,488,000	\$47,622,000	\$45,747,000	\$44,390,000
Ark.	45,135,000	62,100,000	42,000,000	44,232,000	39,744,000	33,600,000
Fla.	12,600,000	12,000,000	11,200,000	11,340,000	8,760,000	8,960,000
Ga.	62,000,000	64,950,000	56,000,000	62,000,000	50,661,000	47,600,000
Ky.	95,200,000	105,000,000	91,250,000	82,824,000	58,800,000	58,400,000
La.	44,814,000	45,100,000	38,600,000	42,125,000	28,864,000	28,950,000
Md.	27,300,000	24,850,000	24,531,000	24,297,000	15,158,000	16,681,000
Miss.	47,600,000	67,450,000	58,275,000	46,648,000	43,824,000	42,541,000
Mo.	132,112,000	191,750,000	158,400,000	118,901,000	109,298,000	107,712,000
N. C.	53,650,000	60,900,000	57,550,000	59,015,000	46,893,000	49,493,000
Okla.	53,325,000	112,100,000	50,000,000	49,592,000	51,566,000	32,000,000
S. C.	32,008,000	35,145,000	36,538,000	36,169,000	30,576,000	33,615,000
Tenn.	84,500,000	93,150,000	80,400,000	79,430,000	54,027,000	54,672,000
Tex.	131,100,000	166,850,000	124,800,000	136,344,000	96,773,000	92,352,000
Va.	60,990,000	60,562,000	39,380,000	56,721,000	42,999,000	31,898,000
W. Va.	22,112,000	25,200,000	22,692,000	22,333,000	18,648,000	18,834,000
Total.	951,134,000	1,193,407,000	947,104,000	\$919,593,000	\$742,338,000	\$701,698,000

WHEAT PRODUCTION AND FARM VALUE IN SOUTHERN STATES.

	Production (Bushels).			Farm Value December 1.		
	1916.	1915.	1914.	1916.	1915.	1914.
Ala.	1,045,000	1,200,000	403,000	\$1,933,000	\$1,500,000	\$508,000
Ark.	2,040,000	2,750,000	1,625,000	3,325,000	2,778,000	1,609,000
Fla. ....	.....	.....	.....	.....	.....	.....
Ga.	3,808,000	3,575,000	1,694,000	7,083,000	4,612,000	2,270,000
Ky.	8,010,000	9,900,000	12,540,000	13,297,000	10,395,000	12,916,000
La. ....	.....	.....	.....	.....	.....	.....
Md.	10,240,000	10,272,000	13,158,000	17,510,000	10,786,000	13,947,000
Miss.	90,000	100,000	13,000	158,000	105,000	16,000
Mo.	16,575,000	34,108,000	43,333,000	27,349,000	33,426,000	42,466,000
N. C.	9,975,000	9,810,000	7,332,000	17,556,000	11,772,000	8,578,000
Okla.	29,585,000	38,860,000	47,975,000	49,407,000	34,585,000	44,137,000
S. C.	2,226,000	2,430,000	920,000	4,207,000	3,353,000	1,334,000
Tenn.	7,958,000	9,030,000	11,160,000	13,449,000	9,752,000	11,718,000
Tex.	13,200,000	25,575,000	14,066,000	22,836,000	27,365,000	13,925,000
Va.	16,250,000	16,974,000	11,296,000	26,812,000	18,332,000	12,200,000
W. Va.	4,640,000	4,500,000	3,540,000	7,424,000	4,860,000	3,823,000
Total.	125,642,000	169,084,000	169,055,000	\$212,346,000	\$173,621,000	\$169,447,000

OAT PRODUCTION AND FARM VALUE IN SOUTHERN STATES.

	Production (Bushels).			Farm Value December 1.		
	1916.	1915.	1914.	1916.	1915.	1914.
Ala.	10,500,000	11,400,000	8,580,000	\$7,875,000	\$7,182,000	\$5,920,000
Ark.	7,350,000	10,125,000	6,240,000	4,998,000	5,265,000	3,307,000
Fla.	900,000	1,220,000	900,000	639,000	854,000	630,000
Ga.	16,770,000	17,648,000	9,000,000	13,248,000	11,648,000	6,300,000
Ky.	6,300,000	6,500,000	3,675,000	3,780,000	3,120,000	1,948,000
La.	2,090,000	3,000,000	1,610,000	1,421,000	1,650,000	1,014,000
Md.	1,357,000	1,530,000	1,161,000	828,000	750,000	604,000
Miss.	5,760,000	6,450,000	3,680,000	4,262,000	3,870,000	2,392,000
Mo.	32,250,000	31,850,000	25,800,000	17,092,000	12,103,000	11,352,000
N. C.	6,562,000	8,050,000	4,375,000	4,856,000	4,991,000	2,844,000
Okla.	15,080,000	36,450,000	30,250,000	8,596,000	12,758,000	12,402,000
S. C.	9,000,000	9,975,000	7,500,000	7,200,000	6,683,000	5,325,000
Tenn.	7,560,000	8,746,000	8,050,000	4,687,000	4,373,000	4,266,000
Tex.	42,750,000	53,250,000	22,500,000	26,078,000	22,365,000	10,800,000
Va.	5,750,000	5,625,000	2,960,000	3,622,000	3,094,000	1,717,000
W. Va.	3,220,000	3,480,000	2,100,000	2,061,000	1,775,000	1,155,000
Total.	173,199,000	215,299,000	138,381,000	\$111,243,000	\$102,481,000	\$71,976,000

TOBACCO PRODUCTION AND FARM VALUE IN SOUTHERN STATES.

	Production (Pounds).			Farm Value December 1.		
	1916.	1915.	1914.	1916.	1915.	1914.
Ala.	60,000	100,000	140,000	\$18,000	\$22,000	\$39,000
Ark.	250,000	300,000	427,000	50,000	51,000	77,000
Fla.	3,025,000	3,549,000	4,300,000	908,000	816,000	1,290,000
Ga.	1,534,000	1,496,000	1,900,000	414,000	344,000	475,000
Ky.	435,600,000	356,400,000	364,000,000	55,321,000	27,799,000	30,576,000
La.	90,000	126,000	280,000	25,000	38,000	98,000

TOBACCO PRODUCTION AND FARM VALUE IN SOUTHERN STATES— Continued.

	Production (Pounds).			Farm Value December 1.		
	1916.	1915.	1914.	1916.	1915.	1914.
Md.	19,635,000	16,280,000	17,600,000	3,142,000	1,384,000	1,408,000
Miss. ....	.....	.....	.....	.....	.....	.....
Mo.	3,040,000	3,150,000	4,920,000	456,000	378,000	640,000
N. C.	176,000,000	198,400,000	172,250,000	35,200,000	22,221,000	19,809,000
Okla. ....	.....	.....	.....	.....	.....	.....
S. C.	20,280,000	37,700,000	36,500,000	2,839,000	2,639,000	3,540,000
Tenn.	81,760,000	69,675,000	63,468,000	8,258,000	4,390,000	4,760,000
Tex.	140,000	100,000	116,000	28,000	27,000	24,000
Va.	129,200,000	144,375,000	113,750,000	18,863,000	13,571,000	10,238,000
W. Va.	12,690,000	9,831,000	8,856,000	1,904,000	983,000	974,000
Total ..	883,304,000	841,482,000	788,507,000	\$127,426,000	\$74,663,000	\$73,948,000

HAY (TAME) PRODUCTION AND FARM VALUE IN SOUTHERN STATES.

	Production (Tons).			Farm Value December 1.		
	1916.	1915.	1914.	1916.	1915.	1914.
Ala.	358,000	362,000	288,000	\$4,654,000	\$4,489,000	\$3,974,000
Ark.	469,000	560,000	336,000	5,862,000	5,768,000	4,334,000
Fla.	70,000	61,000	65,000	1,120,000	976,000	1,118,000
Ga.	375,000	345,000	338,000	6,075,000	5,210,000	5,476,000
Ky.	1,415,000	1,260,000	712,000	17,829,000	15,750,000	11,392,000
La.	429,000	438,000	380,000	4,719,000	4,511,000	4,560,000
Md.	688,000	468,000	448,000	9,632,000	7,582,000	6,854,000
Miss.	371,000	350,000	304,000	4,081,000	3,850,000	3,648,000
Mo.	4,355,000	4,636,000	1,820,000	40,502,000	39,406,000	24,752,000
N. C.	507,000	648,000	368,000	8,872,000	10,692,000	6,293,000
Okla.	825,000	1,265,000	508,000	7,425,000	7,084,000	4,013,000
S. C.	325,000	286,000	242,000	5,428,000	4,462,000	4,114,000
Tenn.	1,449,000	1,396,000	960,000	21,735,000	19,404,000	16,320,000
Tex.	576,000	765,000	788,000	6,048,000	6,044,000	7,722,000
Va.	1,066,000	945,000	468,000	15,990,000	14,836,000	8,050,000
W. Va.	1,270,000	1,095,000	640,000	18,415,000	16,425,000	11,008,000
Total ..	14,548,000	14,880,000	8,665,000	\$178,387,000	\$166,489,000	\$123,628,000

RICE PRODUCTION AND FARM VALUE IN SOUTHERN STATES.

	Production (Bushels).			Farm Value December 1.		
	1916.	1915.	1914.	1916.	1915.	1914.
Ala.	8,000	8,000	6,000	\$6,000	\$6,000	\$4,000
Ark.	6,312,000	4,840,000	3,685,000	6,060,000	4,598,000	3,316,000
Fla.	18,000	12,000	10,000	14,000	9,000	7,000
Ga.	16,000	26,000	31,000	14,000	23,000	28,000
Ky. ....	.....	.....	.....	.....	.....	.....
La.	20,392,000	13,714,000	10,802,000	18,353,000	12,343,000	10,046,000
Md. ....	.....	.....	.....	.....	.....	.....
Miss.	53,000	45,000	30,000	42,000	40,000	26,000
Mo.	10,000	10,000	.....	10,000	10,000	.....
N. C.	6,000	4,000	4,000	5,000	3,000	3,000
Okla. ....	.....	.....	.....	.....	.....	.....
S. C.	49,000	90,000	179,000	44,000	81,000	165,000
Tenn. ....	.....	.....	.....	.....	.....	.....
Tex.	10,575,000	7,930,000	8,102,000	9,094,000	7,058,000	7,454,000
Va. ....	.....	.....	.....	.....	.....	.....
W. Va. ....	.....	.....	.....	.....	.....	.....
Total ..	37,439,000	26,679,000	22,849,000	\$33,642,000	\$24,171,000	\$21,049,000

POTATOES (WHITE) PRODUCTION AND FARM VALUE IN SOUTHERN STATES.

	Production (Bushels).			Farm Value December 1.		
	1916.	1915.	1914.	1916.	1915.	1914.
Ala.	1,800,000	1,600,000	1,422,000	\$3,042,000	\$1,440,000	\$1,436,000
Ark.	1,625,000	2,520,000	1,500,000	3,088,000	1,915,000	1,455,000
Fla.	1,110,000	960,000	1,040,000	2,220,000	1,104,000	1,175,000
Ga.	900,000	1,040,000	780,000	1,575,000	1,030,000	819,000
Ky.	4,116,000	6,426,000	2,250,000	5,845,000	3,534,000	1,890,000
La.	1,625,000	1,428,000	1,680,000	2,714,000	1,357,000	1,630,000
Md.	4,085,000	4,268,000	3,432,000	5,433,000	2,646,000	2,059,000
Miss.	780,000	1,170,000	960,000	1,248,000	983,000	912,000
Mo.	5,460,000	8,820,000	3,915,000	9,828,000	5,292,000	2,858,000
N. C.	3,230,000	3,150,000	1,716,000	4,522,000	2,300,000	1,579,000
Okla.	1,802,000	2,975,000	2,240,000	3,514,000	2,499,000	2,016,000
S. C.	750,000	880,000	770,000	1,312,000	1,012,000	962,000
Tenn.	2,952,000	3,168,000	1,505,000	4,398,000	1,996,000	1,370,000
Tex.	2,000,000	2,730,000	2,684,000	3,800,000	2,866,000	2,791,000
Va.	16,250,000	17,500,000	7,280,000	22,262,000	10,675,000	5,606,000
W. Va.	4,224,000	5,850,000	2,592,000	6,674,000	3,802,000	2,100,000
Total ..	52,709,000	64,485,000	35,766,000	\$81,475,000	\$44,451,000	\$30,658,000

THE ARMOR-PLATE PLANT SITE AND OTHER INTERESTS.

REFERRING to the fight that is being made against the location of the proposed Government armor-plate plant in the South, a Northern man now living in the South, and a member of one of the local committees working to secure this plant, writes:

This fact also developed: The opposition to a Government-owned armor plant is so strong in the North, East and some portions of the West that it is going to be well-nigh impossible for the Board to recede from their first specifications. It was unfortunate that their proverbial cocksureness should have led them to the publication of this analysis as an absolutely necessary one to the establishment of the plant at any one point.

To recede now, even to meet what can actually and easily be accomplished, and what ordinary common sense indicates is right, will bring down upon the heads of the Government, and upon the Board in particular, no end of abuse. Especially, if the plant be located in the South, a hue and cry will come up of "more pork barrel in favor of a solid-South vote!"

The newspaper men will not know any better, because they will take the cry from the steel interests. Anyway, I see that the MANUFACTURERS RECORD has got a good-sized scrap on its hands, and inasmuch as you have brought about the enactment of the law itself, I rather believe that we can leave the balance of it to you.

This statement was only made after the situation had been carefully investigated in Washington by experts for that organization engaged for that purpose. If it is not correct, the MANUFACTURERS RECORD will welcome any statement from Commander Clark or other members of the committee which is investigating the subject to the contrary.

Will the newspapers of the East and the West, who should be broad enough in their views to recognize the wisdom of the report made by the committee of which Admiral Dewey is chairman, that this plant should be located in the interior, deal with the subject broadly from the national standpoint, and not from the narrow sectional view which seems at present to prevail among many Eastern papers when it comes to discussing the development of the South and the relation of this section to national welfare?

From the date when the MANUFACTURERS RECORD first suggested that this armor-plate plant should be built in the interior by the Government, if private concerns would not do so, we have not undertaken to suggest any particular city or State. Indeed, we have emphasized the point that the MANUFACTURERS RECORD was willing to abide by the judgment of experts as to whether the location should be in the South or the Southwest, even out as far as Colorado; but we have insisted that to build this plant on the seaboard, or in any section dependent upon lake or foreign ores, would simply intensify our present almost criminal dependence upon plants all of which are now centered in one State.

The question of the location of this armor-plate plant is far broader, however, than that of the development of this one particular industry. It looks as though in justice to the people of this country the Government will be absolutely compelled to build, not only this armor plant, but many munition plants in the interior, in order to protect its future. The fact that none of the great munition plants nor the iron and steel-making leaders have yet shown by their action their willingness to take the lead throws upon the Government the necessity of national protection by building plants of its own in the interior.

It is true that Judge Gary of the Steel Corporation, in a letter published some time ago, stated that munition plants should be built in the interior, but it would be folly to build these plants in the interior if they are so located as to be dependent upon lake ores or within easy reach of the lakes.

The Army and Navy officials have alike agreed that plants of this kind should be located far away from the Atlantic, the Pacific and the Gulf coasts, as well as distant from Canada and the Mexican border. To ignore advice of this kind, which is based on common sense and business judgment, would be extreme folly. Moreover, it does not take men of expert knowledge in naval and army matters to see the wisdom of the advice of these officials.

It is as plain as the noon-day sun that a continuance of present conditions cannot be permitted by

the National Government, and will not, unless Congress is recreant to its responsibilities to a degree that will be almost criminal. Members of Congress and the Administration know full well these facts. President Wilson is advised as to them. They have been discussed by members of the Cabinet, and yet no step has been taken by the Government nor by leading iron and steel men to meet this situation.

The conditions which now exist in naval affairs, due to the inability of the Navy Department to secure contracts for the building of the vessels for which the money has already been appropriated by Congress, illustrates the folly of delaying matters of such vital importance. It was long ago foreseen that the conditions would be exactly as they are today, and that our much-heralded bigger navy will remain for the indefinite future, because it will take some years at the best to construct and equip the vessels for which plans have already been made and bids invited without response from shipbuilders.

Many of our people seemed to have counted safety from attack the moment the bill for the enlarged navy was passed, utterly ignoring that at the best these ships could not be built for several years, and that under present conditions it will probably be from four to five years before some of them are launched.

Congress is responsible for this condition, because Congress refused, until practically driven to it by public sentiment, to vote for this enlarged navy. The Administration is partly responsible for it, because at the beginning of the war it took a stand against preparedness, and not until the force of events literally drove it to the side of preparedness did it advocate a great naval building program. The Republicans who preceded the present Administration were responsible, in part. But it was not until the European war shook the whole earth with its horrors that everyone was awakened to what was taking place, and to what might take place in this country.

With the lesson thus driven home as to the inability to build a navy, except after years of delay, will Congress longer hesitate to establish in the interior great munition-making concerns unless such people as the United States Steel Corporation, the Bethlehem Company, the Midvale Company or other strong concerns recognize their responsibility to the nation, and by building plants in the interior make it unnecessary for the Government to do so?

Secretary Daniels has been working with untiring energy to develop Government-owned shipyards, and to press the building of new naval vessels as rapidly as possible. Will other departments, including the War Department, act with equal vigor in providing for the manufacture of guns and other war supplies in the central part of the country?

The armor-plate question and the discussion that will be developed around its location should awaken the country to our present dangers, and if private interests or the newspapers of the East undertake to bring such pressure upon Congress as to prevent the carrying out of this program, Congress should rise above such influences and do the things which are essential to national life.

FINDS TIME TO BROADEN HIS KNOWLEDGE.

BEVERLY D. HARRIS, vice-president of the National City Bank of New York, in a letter to the *MANUFACTURERS RECORD* referring to a number of articles in a recent issue, including the "Open Letter to Mr. Schwab," of the Bethlehem Steel Co., says:

"* * * which I have found not only very interesting and timely, but I feel that my vision has been broadened and my stock of information added to substantially by the same. While the bank has been a regular subscriber to the *MANUFACTURERS RECORD*, I consider it of great value and benefit to me personally, and have requested our librarian to enter an additional subscription in my name."

If the vice-president of the largest bank in America can find time thus carefully to read the *MANUFACTURERS RECORD* and be benefited in the doing of it, what shall be said of business men in the South who claim that they haven't time to read the *MANUFACTURERS RECORD*, or, for that matter, any other publication?

RYE PRODUCTION AND FARM VALUE IN SOUTHERN STATES.

	Production (Bushels).			Farm Value December 1.		
	1916.	1915.	1914.	1916.	1915.	1914.
Ala.	52,000	40,000	26,000	\$91,000	\$54,000	\$29,000
Ark.	10,000	10,000	10,000	12,000	10,000	10,000
Fla. ....	.....	.....	.....	.....	.....	.....
Ga.	124,000	120,000	121,000	198,000	168,000	182,000
Ky.	246,000	288,000	301,000	317,000	271,000	286,000
La. ....	.....	.....	.....	.....	.....	.....
Md.	356,000	396,000	425,000	392,000	348,000	366,000
Miss. ....	.....	.....	.....	.....	.....	.....
Mo.	231,000	338,000	238,000	284,000	291,000	207,000
N. C.	534,000	575,000	460,000	694,000	604,000	483,000
Okla. ...	90,000	81,000	96,000	112,000	62,000	91,000
S. C.	49,000	30,000	34,000	91,000	45,000	51,000
Tenn. ...	150,000	189,000	286,000	202,000	195,000	280,000
Tex.	20,000	34,000	30,000	24,000	35,000	30,000
Va.	938,000	1,015,000	754,000	1,004,000	944,000	679,000
W. Va. ...	320,000	224,000	246,000	381,000	208,000	221,000
Total..	3,120,000	3,340,000	3,027,000	\$3,802,000	\$3,235,000	\$2,915,000

BARLEY PRODUCTION AND FARM VALUE IN SOUTHERN STATES.

	Production (Bushels).			Farm Value December 1.		
	1916.	1915.	1914.	1916.	1915.	1914.
Ala. ....	.....	.....	.....	.....	.....	.....
Ark. ....	.....	.....	.....	.....	.....	.....
Fla. ....	.....	.....	.....	.....	.....	.....
Ga. ....	.....	.....	.....	.....	.....	.....
Ky.	156,000	180,000	142,000	\$140,000	\$139,000	\$109,000
La. ....	.....	.....	.....	.....	.....	.....
Md.	192,000	170,000	165,000	140,000	119,000	109,000
Miss. ....	.....	.....	.....	.....	.....	.....
Mo.	100,000	125,000	120,000	93,000	79,000	78,000
N. C. ....	.....	.....	.....	.....	.....	.....
Okla. ...	100,000	212,000	175,000	100,000	106,000	93,000
S. C. ....	.....	.....	.....	.....	.....	.....
Tenn. ...	237,000	192,000	135,000	237,000	144,000	111,000
Tex.	153,000	252,000	200,000	122,000	171,000	140,000
Va.	358,000	348,000	286,000	304,000	261,000	229,000
W. Va. ...	.....	.....	.....	.....	.....	.....
Total..	1,296,000	1,479,000	1,223,000	\$1,136,000	\$1,019,000	\$869,000

BUCKWHEAT PRODUCTION AND FARM VALUE IN SOUTHERN STATES.

	Production (Bushels).			Farm Value December 1.		
	1916.	1915.	1914.	1916.	1915.	1914.
Ala. ....	.....	.....	.....	.....	.....	.....
Ark. ....	.....	.....	.....	.....	.....	.....
Fla. ....	.....	.....	.....	.....	.....	.....
Ga. ....	.....	.....	.....	.....	.....	.....
Ky. ....	.....	.....	.....	.....	.....	.....
La. ....	.....	.....	.....	.....	.....	.....
Md.	189,000	220,000	204,000	\$208,000	\$158,000	\$165,000
Miss. ....	.....	.....	.....	.....	.....	.....
Mo.	56,000	45,000	31,000	74,000	40,000	29,000
N. C.	175,000	175,000	171,000	149,000	144,000	142,000
Okla. ...	.....	.....	.....	.....	.....	.....
S. C. ....	.....	.....	.....	.....	.....	.....
Tenn. ...	54,000	54,000	67,000	54,000	41,000	52,000
Tex. ....	.....	.....	.....	.....	.....	.....
Va.	480,000	520,000	446,000	456,000	416,000	375,000
W. Va. ...	659,000	836,000	774,000	666,000	669,000	642,000
Total..	1,613,000	1,850,000	1,693,000	\$1,607,000	\$1,468,000	\$1,405,000

HEAVY TRAVEL TO EUROPE AFTER WAR.

WHEN the European war is over it will scarcely be possible to find steamers sufficient to carry the American people who for a year or two thereafter will rush to Europe. There will be hundreds of thousands of tourists who will want to go simply to see the ruin that war has made. The novelty and pleasure-seeker, and the people who were accustomed in former years to visit Europe, but have not been able to do so since the beginning of the war, will make up this vast army of hundreds of thousands. To this number will be added every man or woman living in America who has relatives anywhere in Europe with whom they have not been able to be in touch during the war. These people will flock to Europe by the tens of thousands to look up relatives and to find out whether they are living or dead, or in what sort of condition they are.

Every army and naval officer who can get away, and every scientist who wants to study the amazing things that have been brought about by war, will go to Europe.

The tourist business to Europe prior to the war will be insignificant to the travel to Europe after the war, if steamships are available. To the extent that steamer accommodations can be had this business will practically be without limit. It is quite safe to estimate that it will mean the leaving in Europe by pleasure tourists, by those who go to hunt up relatives and those who desire to study battlefields and scientific achievements, of a sum not much less than \$500,000,000 a year for several years after the war closes.

We do not believe the extent of this business has been generally understood. In volume and in influence on international finance and on the balance of trade it will have a very far-reaching effect.

SHIPBUILDING YARDS AND THEIR INABILITY TO TAKE ALL GOVERNMENT WORK.

IN discussing the inability of the Government to secure contracts for building all of the naval vessels for which the money was appropriated at the last session of Congress, and Secretary Daniels' suggestion that \$12,000,000 be appropriated for establishing Government shipyards or enlarging existing yards in order to meet this emergency, the New York Times says:

In a letter to Chairman Padgett of the House Naval Committee, Secretary Daniels says that "the private shipbuilders of the country are unable or unwilling to undertake the complete program with any assurance of speed in completion, even at prices which the department regards as unreasonably high." Are the private shipbuilders too profitably occupied with work for foreign countries to permit them to serve their own country's need in a critical moment? The people of this country ought to be informed as to this. The whole situation should be made clear to the public mind.

In this statement the Times does an injustice to the shipbuilding concerns of this country. Its criticism of them might have been expected from a sensational newspaper of yellow journal trend, but it should not have appeared in a reputable paper like the Times.

Every intelligent man in this country, and we take it for granted that the Times has no editors who are not intelligent, could easily have known at any time during the last 12 months that every shipyard in the United States was crowded to the utmost limit of its construction abilities. Most of these contracts were made prior to the passage of the bill for building a large navy.

No one for a moment could have imagined that the shipyard owners could be such fools as to refuse profitable contracts from shipowners in this and foreign countries merely for the purpose of waiting to see whether the Government would want them to build naval vessels.

With these ships under construction, taking up every available facility of the yards, straining to the utmost the capacity of these plants in men, materials and shipways, and their inability to find additional skilled labor, is it fair that the Times should ask the question:

Are the private shipbuilders too profitably occupied with work for foreign countries to permit them to serve their own country's need in a critical moment?

Will the Times please explain how these yards are to cancel existing contracts, many of them made a year or more ago, and how these yards are to throw overboard the ships under construction, so that the facilities now so well employed may be turned to the handling of Government contracts?

Two years ago the MANUFACTURERS RECORD clearly pointed out the coming of this present condition and showed that every yard in the country was then being offered as much work as it could possibly handle. Attention was called to this situation as indicating our inability to build new ships, even though Congress should vote the money for them. No one need have been at all in doubt on this situation. The shipyards kept the country fully informed as to their contracts, as to the rush of work upon them and as to the fact that many of them were constantly turning down offered contracts because they could not handle additional work.

The criticism of the Times is, therefore, wholly unjustified, and is on a par with some of the statements of yellow journalism which always seeks to misrepresent business interests of the country and to create the impression that there is no patriotism among the great business concerns of the land. The Times owes an apology to the American shipbuilding interests, and it owes to its readers an explanation of the crowded conditions of American shipyards with contracts taken at a time when the Government would not give contracts for new ships and when the refusal to take this private work would have meant keeping the yards in idleness, resulting in bankruptcy.

Moreover, we have been boasting of the great shipbuilding activity of the country as one of the signs of national advancement, and the necessity of building more ships for the world's commerce has been persistently urged by all of the newspapers and public men of the land. But now the Times rather slurs the yards for having plenty of work on hand.

The South Able to Make
Armor Plate Steel

President Bowron of the Gulf States Steel Company, writing under date of January 8 to Mr. Earl Lay, Secretary Chamber of Commerce, Gadsden, Ala., said:

"Our mutual friend, Mr. R. H. Edmonds, has sent to me for perusal and reply your favor of January 1 on the subject of armor plate plant. In reply, I beg to point out that all steel, regardless of its ultimate purpose, pretty well starts from the same point, which many years ago it was agreed for the purpose of scientific nomenclature should be described as "ingot iron"; i. e., a metal produced from pig iron alone, or pig iron, scrap and ore, representing as nearly as possible a pure iron, from which the metalloids, carbon and silicon, manganese, phosphorus and sulphur, had been substantially removed.

"To this theoretical basis, which is modified according to the character of works practice as to how nearly it is approached, are added hardening or toughening materials, varying in character and in quantity, according to the ultimate purpose for which the steel is designed. I am at a loss, therefore, to know why steel for the manufacture of armor plate cannot be manufactured as easily in Gadsden as it can be in any other place. It is like the cooking of soup. The open hearth furnace represents the kettle, and if the proper ingredients are put into the kettle you get good soup. If the proper ingredients are put in the open hearth furnace you get good steel—either soft or hard, as may be desired. This remark as to the furnace is subject to the modification that to procure better assimilation some of the additions may be made in the ladle instead of the furnace, so that they may not be carried off to any extent in the slag, but remain in the steel.

"We can make and do make both soft steel and hard steel at Gadsden, according to the specifications of our various customers. For the Norfolk & Western Railway Co., specification 19-D bars and shapes, we are required to get a minimum ultimate tensile strength per square inch of 52,000 lbs. in soft steel, or 60,000 lbs. in medium steel, and a maximum ultimate tensile strength has to be 62,000 lbs. in soft and 70,000 in medium, with a maximum elongation of 25 per cent. in soft, and 22 per cent. in medium steel. Bars made under this specification must bend double, flat upon themselves, without fracture on the outside of the bend.

"For the same company, in the motive power department, specification 52-B, for coupler yoke and arch bar steel, their specification requires carbon not over .25, manganese .40 to .60, sulphur and phosphorus below .05.

"For rivet steel for the same company, two classes, No. 1 for boiler and No. 2 for car construction; analysis required is, manganese No. 1, .30 to .50, No. 2, .30 to .50; phosphorus No. 1, .04, No. 2, .04; sulphur No. 1, .04, No. 2, .045; tensile strength required, 45,000 lbs. to 55,000 lbs. per square inch; elongation 30 per cent; cold bend, without cracking, through 180 degrees flat; quench bend, to be heated to a light cherry red, not less than 1200 degrees F., and quenched in water between 80 and 90 degrees, shall bend through 180 degrees flat on itself, without cracking on the outside. Rivet heads shall flatten hot to diameter two and one-half times the diameter of the shank without cracking at the edges.

"Louisville & Nashville Railroad Co., locomotive forgings for driving and truck axles phosphorous under .05, sulphur under .05, manganese under .60, tensile strength not less than 80,000 lbs. per square inch, elongation in two inches not less than 20 per cent. reduction in area not less than 25 per cent.

The Italian government tensile strength 25 kilograms per square millimeter; elongation 22 per cent. minimum.

"Kirkstall Forge Co., Ltd., Kirkstall Forge, near Leeds, England, 28 to 32 gross tons tensile strength, and 30 per cent. elongation in two inches.

"Italian Government carbons maximum .12, phosphorus maximum .04, sulphur maximum .06.

"It will be observed from the above that the specifications of our customers, as a rule, require that phosphorus should be frequently not exceeding .05. Some give a limit of .06, and the most exacting ask for .04. I presume that the principal objection or cavil is made against steel produced from Southern iron on the ground of it containing more phosphorus than Northern iron.

My answer is that in the process of manufacture the phosphorus is adequately removed from the iron, as shown by the analysis of the finished steel, and that our records of shipments will compare reasonably well with the acid Bessemer steel produced in the North. To support this opinion I attach the following exhibit of actual results, drawn from last month's work, December, 1916:

Heat No.	Phos.	Heat No.	Phos.
6302	.017	6318	.024
03	.027	19	.014
04	.028	20	.013
05	.015	21	.023
07	.011	23	.012
08	.015	24	.010
09	.016	25	.013
11	.013	26	.012
12	.013	27	.012
13	.019	28	.014
14	.012	29	.018
15	.015	30	.018
16	.015	31	.013
17	.017	32	.023
		34	.015
		Average	.016

"This is a series of heats in no wise selected, in fact, taken from the first of six open hearth furnace records, which laid on the top of the pile. We carry higher phosphorus intentionally on some of our heats, for the purposes required by customers, but I think the above list, which can be duplicated very many times by inspection of our records, which are open to the government representatives at any time for their inspection, will support the claim which I make that we can produce steel ingots with the phosphorus averaging quite as low as it does in the North.

"So far as the additional elements are concerned which are required to convert our soft steel into high carbon steel for high class forging, these, as all steel manufacturers and government engineers know, can be added either in the furnace or in the ladle at the time of pouring, whether it be recarburization to a higher degree, or the addition of additional manganese, nickel, chrome or tungsten.

"Furthermore, as has been well demonstrated within 20 miles of Gadsden, in the neighboring town of Anniston, the Alabama steel, produced from cheap raw materials, can be brought to a stage of commercial fitness. It may then, if desired, be subjected at small expense to a further refining in a subsidiary electric furnace, and as I have no definite recollection of the figures kindly shown me by my friend, Mr. Theodore Swann, of the Anniston Steel Co., I would suggest that you apply to him for this information. The steel can be drawn off from the open hearth furnace and subjected in a neutral atmosphere to the refining influence of a calcium carbide slag, under the electric heat, thoroughly removing the oxides, and any remnant of phosphorus; also reducing the sulphur, and considerably increasing the tensile strength, as I am informed, not less than 10,000 to 12,000 pounds per square inch.

"The feasibility of this addition, with the large amount of current available at the present time from the Coosa river, makes this addition at small expense either for construction or operation, an attachment to our Alabama basic open hearth process which will completely and absolutely overcome any possible objection as to the quality of our finished material. The only reason why our company has not yet made this addition to our plant in Gadsden is because such high tensile strength and extreme purity of material are not required for the class of business which we do, but whenever any changes in business conditions should require that we should produce such material, we hold ourselves ready to undertake it."

Coal Prices in Virginia and Kentucky.

Mr. E. F. Quirk, superintendent of the Louisville Steel & Iron Co. of Louisville, Ky., in a letter to the MANUFACTURERS RECORD referring to the coal market and questioning the accuracy of some of the statements recently published as to the prices for coal prevailing in Virginia and Kentucky, says:

"Since we wrote you we find that we are able to make a contract for coal at \$1.60 at the mines. This covers Wise county and Eastern Kentucky coal, and there is no question but that we will be able to better this price in another week or so."

Southern Newspapers on Suggestion That Schwab Establish Iron and Steel Plants South

Will the Steel Magnates Force the Nation to Save Itself by Building Iron and Steel Plants?

[Knoxville Journal and Tribune.]

Richard H. Edmonds has written an open letter to Charles M. Schwab, the great steel magnate, in which attention is called to the fact that most of the steel plants of this country are situated near the coast. It is further noted that these plants are necessarily dependent mainly upon foreign ores. If at any time this country should become involved in a war with Great Britain, this foreign supply of ores would be cut, likewise that of Lake Superior.

What that would mean needs no explanation. The material from which war supplies are made would be beyond our reach, and we would be at a great disadvantage in repelling a war of invasion. Mr. Schwab is not a man who needs to be told of such things, he can and must see for himself.

Those who have large investments in the big steel plants were opposed to the appropriation made by the Government for the establishment of a Government armor-plate plant. But their opposition availed for nothing and for the reason that such a plant must be away from the coast, at a safe distance from a possible approach of a possible army of invasion. What has been done should be a hint to those interested in the steel manufacturing business that if they do not provide for steel mills in the interior the Government will. It is a matter of preparation for self-defense.

In his letter to Mr. Schwab Mr. Edmonds points out the advantages offered by the South and Southwest for the erection of such plants. He shows how the raw material is found here, and how there need be no fear of any lack of transportation facilities. He asserts that the time must soon come "when on the South Atlantic and the Gulf coasts shipyards rivaling those of the North Atlantic and Pacific coasts must be established." There is no reason for a belief that such a time is far in the future.

What is said in the open letter from Mr. Edmonds to Mr. Schwab must set the latter to thinking, and if he is not blind, which he is not, he must see and understand that there must be action. **If private and corporate capital will not come in and fill the want, the Government will, it must.**

Suppose War Should Come.

[Baltimore News.]

Richard H. Edmonds, editor of the MANUFACTURERS RECORD, has written a long letter to Charles M. Schwab, chairman of the board of directors of the Bethlehem Steel Corporation, urging the establishment of an iron and steel plant in the South or Southwest.

Mr. Edmonds points out in his letter that the population in these sections is rapidly increasing, business interests of all kinds are expanding, and that great cities must inevitably be built and great railroads constructed, so that there will be created a big market for every line of iron and steel products.

Furthermore, Mr. Edmonds points out that most of the iron and steel plants in this country are now located on or near the coast, and argues that they are now dependent on supplies of ore from abroad or from the Lake region. He goes on to say that it would be a fearful disaster to this country in the event of war "if such plants as yours and those of other Eastern and Western concerns should be compelled to close for lack of raw material."

Mr. Schwab and the South.

[Durham (N. C.) Morning Herald.]

The editor of the MANUFACTURERS RECORD has addressed an open letter to Mr. Charles M. Schwab of the Bethlehem Steel Co., one of the most influential of the steel producers in this country, asking his consideration of the South for the future development of business. It is pointed out in the letter to the steel magnate that

every patriotic and many economic considerations demand the construction of a big steel plant in the Southern States. Certain sections of the South have what now appears to be an unlimited supply of iron ore and coal, the two essentials in the manufacture of steel. Aside from that, the South is the most important undeveloped section of the country today. It will probably be the largest user of steel rails and other steel products for the construction purposes during the next quarter of a century.

Besides these business considerations, it is pointed out that should an invading enemy come to the American shores the iron deposits and the steel mills in the East or near the coast would be among the first places captured. At the present time all of the steel factories and munition plants are located near the coast. The Government at the present time has under consideration the erection of an armor-plate factory somewhere in the interior, so that in case the other plants were captured the Government plant could continue to supply a defending army with shell and ammunition.

The suggestion to Mr. Schwab is to consider the invitation of the South from both the patriotic and economic standpoint, and if Mr. Edmonds succeeds in getting the steel magnate's consideration of the plant and adoption of the suggestion he will have accomplished a good thing for the South and a good thing for the country.

Schwab and the South.

[Charlotte Observer.]

Ever alert to the chance for exploiting the abounding opportunities in the South, the MANUFACTURERS RECORD is prompt to enlist the attention of Mr. Charles M. Schwab, who recently told the Baltimore people why he had spent \$100,000,000 in enlarging his plants, regardless of the boom prices which prevail in the machinery markets, the high price of labor and other deterrent factors, to the field opportunity in the South. The MANUFACTURERS RECORD advances some telling reasons why Mr. Schwab should find it advisable to identify himself with the fast developing iron and steel industry in the Southern States. The MANUFACTURERS RECORD presents so strong a case as to make it look like "a responsibility on part of Schwab to lead the nation to a higher plane of safety by developing these industries in the South and Southwest." If the MANUFACTURERS RECORD can convince Schwab that this "is the psychological time to turn his attention to the South," it will be doing the country a great service, but not so great a service as that to Mr. Schwab himself.

[The Observer is correct. Mr. Schwab and all the other great iron and steel men need the South from every point of view to make safe their individual fortunes and to safeguard the nation itself.—Editor MANUFACTURERS RECORD.]

South and Steel.

[Chattanooga News.]

In a letter addressed to Charles M. Schwab of the Bethlehem Steel Co., who has just located a large steel plant at Baltimore, Richard H. Edmonds, editor of the MANUFACTURERS RECORD, presents very strongly some of the facts which should induce the Bethlehem and other steel companies to investments in the South.

To Build \$150,000 Ship at Lake Charles.

A steamship costing \$150,000 will be built at Lake Charles, La., for the Gulf Export & Transportation Co. of Beaumont, Tex. It will be completed within nine months for regular service between Beaumont and Porto Rico, its first voyage calling for a cargo of Beaumont milled rice. This vessel will be 211 feet long, with 41½-foot beam and 19-foot hold. Its machinery has been ordered, and its construction will begin at once, contract for building the hull having been awarded to the Clooney Construction Co.

GOVERNMENT PROSPECTING FOR POTASH IN TEXAS.

Believed That Outlook Is Promising for Successful Termination of the Work.

The United States Geological Survey, Department of the Interior, is actively at work on the exploration for potash by drilling in Northwestern Texas, in the saline deposits of the "red beds" formations, and comments of the survey, given herewith, indicate a belief that successful results may follow the work. This project has been under consideration from the beginning of the potash investigations, and data bearing on the distribution and character of the "red beds" saline have been gradually accumulated. On the suspension of the survey's drilling operations in the Nevada desert basins in the fall of 1915 the equipment was at once moved to Texas and a start made on the boring there.

The site of this boring is in Potter county at Cliffside, a minor station on the Fort Worth & Denver City Railroad, six miles northwest of Amarillo. The equipment was delivered in November and drilling commenced December 16, 1915. This work was carried on continuously until February 29, 1916, when, owing to the practical exhaustion of the drilling fund, it had to be stopped. The well was then 363 feet deep. The upper part was cased with 168 feet of 10-inch pipe, and the lower part was a six-inch hole without casing.

In July, 1916, the new appropriation for Geological Survey work made funds available to carry on the drilling, and steps were at once taken to resume. At this time, however, steel and machinery plants were overloaded with orders, and delay in the delivery of necessary equipment prevented starting the work until November. Since November 7 the work has gone on continuously. Most of the time has been consumed in re-drilling the hole where it had caved below the casing formerly set, and in underreaming and setting a new string of eight-inch casing to the original depth of the hole, 363 feet. On January 1, 1917, drilling in new ground had reached a depth of 386 feet.

In its report on the project under way the survey says:

"It is well known that very extensive salt beds underlie large areas in Northwestern Texas and adjacent parts of Oklahoma, Kansas and New Mexico. Salt in thick beds is included in the sedimentary section of clay, shale, gypsum and limestone or dolomite, in a series which resembles in many ways the series that includes the German deposits of potash salts. The 'red beds' in which the salt and gypsum occur in Texas are of Permian age and are thought to represent a period of aridity and long exposure of this part of the earth's surface to weathering and rock decay, which accompanied the drying up of continentally enclosed basins of saline waters. It is certain that such conditions might have resulted in the formation of deposits of potash salts here, as well as in the Permian area of Northern Germany. If potash is present in Texas, the chances are great that it would have been overlooked by drillers, as the ordinary potash salts have no readily distinguishing characteristic and would be classed by most drillers as salt and alkali or brine. A few very small specks containing potash salts have been found in samples from some of the Texas drillings, but these are to be considered a suggestion of possibilities only, for they indicate nothing as to quantity or even as to the existence of a significant deposit.

"The main point to be emphasized is that all drilling where salt beds or salt brines are being encountered should be watched and the salts or brines tested for potash. This applies not only to Texas or Oklahoma, but to borings everywhere else. Potash deposits have been discovered in the Permian in central Germany, in the Oligocene (Tertiary) in Alsace, the lower Miocene (Tertiary) in Galicia, and in the supposed Eocene or Oligocene (Tertiary) in Northeastern Spain, always in conjunction with deposits of common salt, dolomite and gypsum, and it would be strange if occurrences of this sort were confined entirely to the salt deposits of Europe."

Exporting Birmingham Iron and Steel.

Among the exports from Savannah during December were: Pig-iron, 74,751 tons; scrap iron, 280 tons; bar iron, 2,655,005 pounds; wire rods, 2,915,844 pounds; steel bars, 560,000 pounds; steel billets, 4678 tons; steel plates, 499,090 pounds.

Rivers and Harbors Improvements South Covered in Congressional Bill Introduced

AGGREGATE OF OVER \$18,000,000 FOR SOUTHERN WORK — VARIOUS IMPORTANT NEW PROJECTS INCLUDED ALONG WITH APPROPRIATIONS FOR CONTINUING WORK UNDER WAY.

[Special Correspondence Manufacturers Record.]

Washington, D. C., January 15.

The Rivers and Harbors bill, as framed in committee and submitted to the House, contains among its various items appropriations for continuing the work of improvement on waterways and harbors of the South, and includes a number of important "new projects," or those on which no work by the Government is now under way. The items covering Southern work, as given herewith, carry an aggregate of \$18,232,550.

It is generally believed that the bill as reported by the Rivers and Harbors Committee will be permitted to stand practically unaltered in the House, with the possibility that some of the appropriations for important projects may be increased in the Senate.

The bill as reported to the House last week from the Rivers and Harbors Committee contains the following items relating to waterway improvements in the Southern States:

MARYLAND.

Baltimore harbor and approaches—for maintenance of improvement of Patapsco River channel to Baltimore, including channel of approach at York Spit, Chesapeake Bay, \$904,000; for improvement in accordance with the report submitted in House Document 799, Sixty-fourth Congress, first session, and subject to the conditions set forth in said document, \$250,000; in all, \$1,154,000.

(And the Secretary of War is hereby authorized to prosecute maintenance work in the inner harbor in accordance with the recommendation in said House Document 799.)

Inland waterway from Delaware River to Chesapeake Bay, Delaware and Maryland—For improvement by the purchase of the existing Chesapeake and Delaware Canal and appurtenant property, in accordance with the project recommended by the Chief of Engineers in paragraph three of his report dated August 9, 1913, as published in House Document No. 196, Sixty-third Congress, first session, \$1,300,000.

And the Secretary of War is hereby authorized to purchase said canal and appurtenant property at a cost not to exceed the amount herein appropriated for such purpose.

DISTRICT OF COLUMBIA.

Potomac River—for maintenance of improvement at Washington, \$30,000.

VIRGINIA.

Norfolk harbor and vicinity—for improvement in accordance with the report submitted in House Document 605, Sixty-third Congress, second session, \$270,000.

The unexpended balance of appropriations heretofore made for improvement of channel to Norfolk is hereby made available for continuing improvement of said channel in accordance with the report submitted in House Document 605, Sixty-third Congress, second session.

Mattaponi and Pamunkey rivers and Occoquan and Aquia creeks—for maintenance, \$5,000.

Rappahannock River—for maintenance, \$10,000.

Pagan River—completing improvement in accordance with the report submitted in House Document 591, Sixty-fourth Congress, first session, \$25,000.

Nansemond River—for maintenance, \$6,000.

James River—continuing improvement for maintenance, \$56,000.

Appomattox River—for maintenance, \$10,000; for completion of the work of deflection and improvement of the river at Petersburg, \$40,000; in all, \$50,000.

Tangier Channel—completing improvement in accordance with report submitted in House Document 107, Sixty-third Congress, first session, \$16,434.

Inland waterway from Norfolk, Va., to Beaufort Inlet, N. C.—continuing improvement, \$1,000,000.

NORTH CAROLINA.

Manteo Bay—for maintenance, \$500; completing improvement in accordance with the report submitted in House Document 864, Sixty-third Congress, second session, \$28,000; in all, \$28,500.

Thoroughfare Bay—completing improvement of channel connecting Thoroughfare Bay and Cedar Bay, in accordance with the report submitted in House Document 1125, Sixty-third Congress, second session, \$5,200.

Cape Lookout, harbor of refuge—continuing improvement, \$425,000.

Beaufort harbor—for maintenance, \$4500; completing improvement in accordance with report submitted in House Document 1108, Sixty-third Congress, second session, \$15,900; in all, \$20,400.

Beaufort Inlet—for maintenance, \$14,000.

Morehead City harbor—for maintenance, \$2,000.

Roanoke River—for maintenance, \$2,500.

Scuppernon River—for maintenance, \$3500; completing improvement in accordance with the report submitted in House Document 1196, Sixty-second Congress, third session, \$31,800; in all, \$35,300.

Pamlico and Tar rivers—for maintenance, \$4,500.

Contentnea Creek—for maintenance, \$1,000.

Sense and Trent rivers—for maintenance, \$6,900.

Waterway from Pamlico Sound to Beaufort Inlet—for maintenance, \$15,000.

Northeast, Black and Cape Fear rivers—for maintenance of improvement of Northeast and Black rivers and of Cape Fear River above Wilmington, N. C., \$5000; completing improvement of Northeast River, in accordance with the report submitted in House Document 1355, Sixty-second Congress, third session, and subject to the conditions set forth in said document, \$25,375; in all, \$30,375.

Newbegin Creek—completing improvement in accordance with the report submitted in House Document 24, Sixty-third Congress, first session, \$5,000.

Cape Fear River at and below Wilmington—completing improvements and for maintenance, \$115,000.

SOUTH CAROLINA.

Winyah Bay—continuing improvement and for maintenance, \$150,000.

Charleston Harbor—for maintenance of the 28-foot channel to the sea, \$40,000; for maintenance of Ashley River Channel, \$10,000; for improvement in accordance with the report submitted in House Document 288, Sixty-second Congress, second session, and subject to the conditions set forth in said document, \$70,000; in all, \$120,000.

Great Pedee River—for maintenance, \$5,000.

Santee, Wateree and Congaree Rivers—for maintenance, including the Esterville-Minim Creek Canal and the Congaree River as far as the Gervais Street Bridge, Columbia, \$30,000; continuing improvement of Congaree River in accordance with the report submitted in House Document 702, Sixty-third Congress, second session, \$50,000; in all, \$80,000.

Inland waterway between Savannah, Ga., and Beaufort, S. C.—for maintenance, \$3,000.

GEORGIA.

Savannah Harbor—for maintenance, \$350,000; for improvement in accordance with the report submitted in House Document, 1471, Sixty-fourth Congress, second session, and subject to the conditions set forth in said document, \$500,000; in all, \$850,000.

Darien Harbor—for maintenance, \$2,500.

Brunswick Harbor—for maintenance, \$33,250; for improvement in accordance with the report submitted in House Document 233, Sixty-fourth Congress, first session, \$175,000; in all, \$208,250.

Savannah River—for maintenance below Augusta, \$30,000.

Altamaha, Oconee and Ocmulgee Rivers—continuing improvement and for maintenance, \$40,000.

Fancy Bluff Creek—for maintenance, \$1,000.

Satilla River—for maintenance, \$2,000.

Waterway between Savannah, Ga., and Fernandina, Fla.—continuing improvement and for maintenance, \$40,000.

Saint Mary's River, Georgia and Florida—for maintenance, \$7,000; for improvement in accordance with the report submitted in House Document 540, Sixty-fourth Congress, first session, \$15,000; in all, \$22,000.

FLORIDA.

Miami Harbor (Biscayne Bay)—completing improvement, \$100,000.

Channel from Clearwater Harbor through Boca Ciega Bay to Tampa Bay—for improvement of channel from Tampa Bay to Boca Ciega Bay in accordance with the report submitted in House Document 135, Sixty-third Congress, first session, \$10,700.

Saint Petersburg Harbor—for maintenance, \$1,500.

(The Secretary of War is hereby authorized to prosecute the work of improvement on the existing project in accordance with the modified conditions recommended by the Chief of Engineers and the Board of Engineers for Rivers and Harbors in the report printed in Rivers and Harbors Committee Document 6, Sixty-fourth Congress, second session.)

Tampa Harbor, Hillsboro Bay—for maintenance of Hillsboro Bay, \$30,000; for improvement in accordance with the report submitted in House Document 1345, Sixty-fourth Congress, first session, and subject to the conditions set forth in said document, \$300,000; in all, \$330,000.

(Provided, that the Secretary of War may enter into a contract or contracts for such materials and work as may be necessary to complete the said project, to be paid for as appropriations may from time to time be made by law, not to exceed in the aggregate \$1,125,000, exclusive of the amounts herein and heretofore appropriated.)

Apalachicola Bay—for maintenance, \$14,000.

Saint Andrew's Bay—for maintenance, \$36,000.

Saint John's River—for maintenance from Jacksonville to the ocean, \$330,000.

Oklawaha River—continuing improvement and for maintenance, \$5,000.

Oklawaha River—for improvement in accordance with the project set forth on page 17 of House Document 514, Sixty-third Congress, second session, and subject to the conditions contained in the document, \$100,000.

(Provided, that the locks shall be constructed suitable for a six-foot navigation.)

Indian River—for maintenance, \$6,000.

Kissimmee River—for maintenance, \$1,000; completing improvement in accordance with the report submitted in House Document 137, Sixty-third Congress, first session, \$47,000; in all, \$51,000.

Caloosahatchee River—for maintenance, \$4,000.

Manatee River, mouth to Mitchellville Bridge—for maintenance, \$5,000.

Anclote River—for maintenance, \$3,000.

For the removal of the water hyacinth from the navigable waters in the State of Florida, so far as it is or may become an obstruction to navigation, \$10,000.

Apalachicola River—continuing improvement and for maintenance, including the cut-off, Lee Slough, lower Chipola, and upper Chipola River from Marianna to its mouth, \$31,000.

Holmes River—for maintenance from Vernon to the mouth, \$1,000.

Channel from Apalachicola River to Saint Andrew's Bay—for maintenance, \$14,500.

Choctawhatchee River, Florida and Alabama—for maintenance of improvement, including Cypress Top Outlet, \$6,000.

Escambia and Conecuh Rivers, Florida and Alabama—for maintenance, \$2,500.

ALABAMA.

Mobile Harbor and Bar—for maintenance, \$110,000; for improvement in accordance with the report submitted in House Document 1763, Sixty-fourth Congress, second session, and subject to the conditions set forth in said document, \$250,000; in all, \$360,000.

Alabama River—continuing improvement and for maintenance, including the Alabama and Coosa Rivers between Montgomery and Wetumpka, \$30,000.

Tombigbee River, Alabama and Mississippi—for maintenance from the mouth to Demopolis, Ala., \$30,000, and from Demopolis, Ala., to Walker's Bridge, Miss., \$10,000; in all, \$40,000.

Channel connecting Mobile Bay and Mississippi Sound—for maintenance, \$5,000.

MISSISSIPPI.

Pascagoula Harbor—continuing improvement and for maintenance of channels through Horn Island Pass, Mississippi Sound, Pascagoula River and Dog River, \$113,000.

Gulfport Harbor—continuing improvement and for maintenance of anchorage basin at Gulfport and channel therefrom to the anchorage or roadstead at Ship Island, and for the improvement and maintenance of channel at Ship Island Pass, \$80,000.

Pascagoula, Leaf and Chickasaw Rivers—for maintenance, \$5,000.

East Pearl River—for maintenance, \$5,000.

Yazoo River and tributaries—for maintenance, including Yazoo, Tallahatchie, Coldwater and Big Sunflower Rivers, Tchula Lake, Steele and Washington Bayous, Lake Washington, and Bear Creek, \$20,000.

LOUISIANA.

Passes at the mouth of the Mississippi River—continuing improvement and for maintenance, \$1,325,000.

Bayou Plaquemine—for maintenance, including Grand River and Pigeon Bayous.....	20,000
Bayou Teche—for maintenance.....	10,000
Inland waterway on the coast of Louisiana—for maintenance from Franklin to Mermentau, \$5,000, and from Mermentau River to Sabine River, Louisiana and Texas, \$2,000; in all.....	7,000
Inland waterway from Mississippi River to Bayou Teche—for improvement in accordance with the smaller project submitted in House Document 610, Sixty-fourth Congress, second session.....	100,000

(Provided, that no expense shall be incurred by the United States in securing any lands needed in connection with this improvement, *Provided further*, that this provision shall not be construed as authorizing the purchase of any existing canals or waterways, and *Provided further*, that the work of improvement shall be commenced at Bayou Teche and proceed eastward along the course of natural streams.)

Calcasieu River and Pass—for maintenance.....	5,000
Bogue Falls, Bayou Manchac, Amite, Chefuncte, and Tickfaw Rivers—for maintenance.....	4,000
Lake Pontchartrain—completing improvement in accordance with the report submitted in House Document 176, Sixty-third Congress, first session..	22,000
Bayous Vermillion and Plaquemine Brule, and Mermentau River—for maintenance, including channel, bay and passes of Bayou Vermillion, and tributaries of Mermentau River.....	46,000
For the removal of the water hyacinth from the navigable waters in Alabama, Mississippi, Louisiana and Texas in so far as it is or may become an obstruction to navigation.....	20,000
Bayou Terrebonne—for maintenance.....	3,000
Atchafalaya River—for maintenance.....	20,000
Sabine River, Louisiana and Texas—for improvement in accordance with the report submitted in House Document 608, Sixty-third Congress, second session.....	30,000
Bayou Grossetete—for maintenance.....	1,000
Red River, Arkansas and Louisiana—for maintenance below Fulton, Ark.....	55,000

TEXAS.

Galveston Harbor—for maintenance.....	50,000
Galveston Channel—for maintenance.....	100,000
Channel from Galveston Harbor to Texas City—for maintenance.....	50,000
Port Bolivar Channel—for maintenance.....	30,000
Port Aransas—continuing improvement and for maintenance.....	100,000
Sabine Pass—continuing improvement and for maintenance of Sabine Pass and Port Arthur Canal.....	390,000
Houston Ship Channel—for maintenance.....	250,000
Anahuac Channel, Trinity River, Oyster Creek, and Cedar, Chocolate, Turtle, Bastrop, Dickinson, Double and East Bay Bayous—for maintenance....	33,300
Inland waterway on the coast of Texas—for maintenance of the West Galveston Bay-Brazos River section, \$15,000; for maintenance of the Brazos River-Matagorda Bay section, \$30,000; for maintenance of the Aransas Pass-Pass Cavallo section, \$30,000; in all.....	75,000
(Provided, that any portion of the amount hereby appropriated for a given section of said waterway may, upon recommendation of the Chief of Engineers, be transferred by the Secretary of War and made available for maintenance of improvement in any other section.)	
Freeport Harbor—for maintenance of mouth of Brazos River, \$65,000; for improvement in accordance with the report submitted in House Document 1469, Sixty-third Congress, third session, and subject to the condition set forth in said document, \$15,000; in all.....	216,000
Channel from Aransas Pass to Corpus Christi—for maintenance.....	15,000
Sabine-Neches Canal—for maintenance of that portion from the mouth of the Neches River to the junction with the Port Arthur Ship Canal.....	20,000
Colorado River—completing improvement in accordance with the report submitted in Rivers and Harbors Committee Document 3, Sixty-third Congress, first session, and subject to the conditions set forth in said document.....	25,000
Cypress Bayou and waterway between Jefferson, Tex., and Shreveport, La.,—for maintenance.....	5,000

ARKANSAS.

White River—for maintenance.....	19,200
Ouachita River, Arkansas and Louisiana—for maintenance of open-channel work up to Camden.....	10,000
Arkansas River, Arkansas and Oklahoma—for maintenance by snagging operations.....	35,000
Black and Current Rivers, Arkansas and Missouri—for maintenance.....	6,000
Saint Francis River and tributaries—for maintenance of Saint Francis and L'Angeville Rivers and Blackfish Bayou.....	3,500

Sec. 5 of the bill provides that "Bayou Meto in the State of Arkansas be, and the same is hereby declared to be a non-navigable stream, within the meaning of the Constitution and laws of the United States. The right of the Congress to

alter, amend, or repeal this paragraph is hereby expressly reserved."

TENNESSEE AND KENTUCKY.

Cumberland River, Tennessee and Kentucky—for maintenance above Nashville, \$5,000; for improvement above Nashville in accordance with the recommendation of the Chief of Engineers and the Board of Engineers for Rivers and Harbors, printed in Rivers and Harbors Committee Document 10, Sixty-third Congress, second session, and subject to the conditions set forth in said document, \$340,000; continuing improvement below Nashville, \$632,000; in all.....	977,000
Tennessee River, Tennessee, Alabama and Kentucky—for maintenance and continuing improvement above Chattanooga, \$325,000; continuing improvement between Chattanooga and Browns Island, \$50,000; completing improvement and for maintenance below Riverton, \$25,000; in all.....	401,000

MISSISSIPPI RIVER.

Mississippi River from Head of Passes to the mouth of the Ohio River, including salaries, clerical, office, traveling and miscellaneous expenses of the Mississippi River Commission—continuing improvement with a view to securing a permanent channel depth of nine feet.....	6,000,000
(Which sum shall be expended under the direction of the Secretary of War in accordance with the plans, specifications, and recommendations of the Mississippi River Commission, as approved by the Chief of Engineers, for the general improvement of the river, for the building of levees, and which may be done, in the discretion of the Secretary of War, by hired labor or otherwise, between Head of Passes and Cape Girardeau, Mo., and for surveys, including the survey from Head of Passes to the headwaters of the river, in such manner as in their opinion shall best improve navigation and promote the interests of commerce at all stages of the river; <i>Provided</i> , that of the money hereby appropriated so much as may be necessary shall be expended in the construction of suitable and necessary dredge boats and other devices and appliances and in the maintenance and operation of the same.)	

PRELIMINARY SURVEYS.

The Secretary of War is hereby authorized and directed to cause preliminary examinations and surveys to be made at the following-named localities, and a sufficient sum to pay the cost thereof may be allotted from the amount provided in this section: (\$200,000—Items below are those relating to Southern States):

Youghiogheny River, Maryland and Pennsylvania; Kiskimintus River and Clarion River, Pennsylvania, with a view to devising plans for flood protection and determining the extent to which the United States should co-operate with the States and other communities and interests in carrying out such plans, its share being based upon the value to navigation.	
Harbor at Poplar Island, Md.	
Elizabeth River, Virginia, and approaches thereto.	
Trent River, North Carolina, with a view to deepening the channel along that portion of the river known as Foys Flats.	
Smith Creek, Pamlico county, North Carolina.	
Broad Creek, Pamlico county, North Carolina.	
Queens Creek, Onslow county, North Carolina.	
Northeast River, Duplin county, North Carolina.	
Little River, North Carolina and South Carolina.	
Charleston Harbor and Cooper River, South Carolina, from the entrance to Sanders Creek, including Town Creek channel.	
Church and Bobicket Creeks and Church Flats, South Carolina, from the North Edisto River to the Stono River.	
For the construction of a navigable waterway, of suitable depth and width to answer the needs of commerce, connecting the waters of the Flint and Ocmulgee Rivers in the State of Georgia.	
Canaveral Harbor, Florida.	
Banana Creek, Florida.	
Little Sarasota Bay, Florida, from Sarasota Bay to Venice.	
Lake Worth Inlet, Palm Beach county, Florida.	
Charlotte Harbor, Florida, with a view to securing a channel of increased depth from the Gulf of Mexico to the town of Boca Grande.	
Pithalachasotte River, Florida.	
Hillsboro River, Florida, from Michigan avenue to Lafayette Street Bridge, Tampa.	
Bayou Tigre, Louisiana.	
Bayou Chene, Louisiana.	
Intracoastal waterway from Calcasieu River, Louisiana, to Sabine River, Texas and Louisiana, with a view to securing such width and depth as will meet the demands of commerce.	
Calcasieu River from the Gulf of Mexico to the town of Lake Charles, Louisiana, with a view to providing deeper draft of water.	
Old River, Chambers county, Texas.	
Waterway in Texas from the jetties at Sabine Pass through the Port Arthur ship channel to Port Arthur and through the Sabine-Neches Canal to the mouths of the Neches and Sabine Rivers, and thence up said rivers to Beaumont and Orange, respectively, with a view to deepening and widening such waterways, making necessary cut-	

offs, and otherwise improving same for navigation and commerce.

Cypress Bayou and waterway between Jefferson, Tex., and Moringsport, La.

Black River, Arkansas and Missouri.
Galveston Island and Galveston Channel east of the Causeway, to prepare plans and estimates for their protection against storms and erosions.

Tennessee River, Tennessee, with a view to locating one low dam at the mouth of White's Creek, and one low dam at the mouth of the Clinch River.

Little Tennessee River, Tennessee.

A Y. M. C. A. and Athletic Field for the Fulton Bag and Cotton Mill.

Atlanta, Ga., January 13.

Editor Manufacturers Record:

The MANUFACTURERS RECORD, I note, always hails with great pleasure an opportunity to announce to its readers any notable improvement in conditions in the South. Most announcements are necessarily of purely industrial matters, but when it can, without going out of its field, announce improvements along humanitarian lines, I am sure it does this with an even better will.

The Fulton Bag and Cotton Mills of Atlanta has recently completed plans for the construction of a Young Men's Christian Association building and athletic field. In so doing they have taken an advanced position in work of this kind.

Like other modern, progressive mills, the company has for years maintained a very complete hospital, including operating-room, dental-room, etc., besides all the other branches of welfare work conducted in mills.

It is the company's policy in all work of this kind to foster the feeling of independence and self-respect that prompts the workers to resent any efforts at charity work, in the belief that it is for their own good. For this reason a nominal charge is made for all services rendered the employees, provided they can afford to pay. If they cannot, services will be given. It was to carry out this policy that the company enlisted the services of the Young Men's Christian Association. The association is experienced in work of the kind. Moreover, coming through them, it will seem less like a gift from the company. The company foots the bills and the association does the work.

"Footing the bills" in this case amounts to an initial expenditure of \$50,000. This will provide a spacious building equipped with reading-room, gymnasium, pool and showers; in a word, all the features of the usual Y. M. C. A. building, and an athletic field 400 feet square, with baseball diamond, track, etc. In addition to this initial expenditure, the plans provide for future expansion as it seems advisable. They call certainly for a large auditorium for the amusement and education of the employees, and possibly a Young Women's Christian Association.

For the spirit of generosity and good-will toward their employees shown by this move, the Fulton Bag and Cotton Mill deserves the highest praise. They are taking a leading part in a movement that is becoming general throughout the South—a movement that deserves the keenest interest of the people and their most whole-hearted co-operation.

RICHARD WOODS EDMONDS.

For Iron Industry in Missouri.

Plans for an iron industry in Missouri are being formulated by the Butler Iron Co. of Poplar Bluff. This is a new corporation, chartered with \$2,000,000 capital, and its plans contemplate a blast furnace, a chemical plant and a concentrating plant, in connection with the development of 10,000 acres of iron-ore land. About \$680,000 is to be the cost of the three plants mentioned. The company has offices at Poplar Bluff and Chicago. Its officers are: President, W. W. Mechling, formerly with Carnegie Steel Co. and Ford Steel Wheel Co. of Pittsburgh; vice-president, M. H. Cutter of M. H. Cutter & Co., Chicago; treasurer, H. F. Landeck, president of City National Bank, Oshkosh, Wis.; secretary, J. A. Massen of Hollen & Massen, Chicago. The directors are these officers and C. H. Wheeler, Gary, Ind.; W. E. Orthwein, St. Louis; E. P. Sedgwick, treasurer of Chicago Hardware Foundry Co., North Chicago, Ill.; Charles E. Temple, Grand Rapids, Mich.; B. F. Baker, treasurer of Kewanee Boiler Co., Kewanee, Ill.

What Britain Has Done Leads World's Wonders

[From the Boston News Bureau.]

All the seven wonders of the world fade on history's page compared with the spectacle Great Britain presents today. A commercial nation of less than 50,000,000 people suddenly summoned to arms where no arms existed and in less than 30 months she has a bigger army than history ever before recorded and a war machine in Europe that for wealth of shell, explosives and war power is the amazement of the Germans, who had taken ten times 30 months to prepare for the attack.

But this is only the beginning of wonders.

Without an English aeroplane engine that could circle her own island, she has vanquished the boasted Zeppelins and is mistress of her own skies. With submarines by the hundred threatening her coast defences, her food supplies and her commerce, she has swept all oceans, locked the vaunted German fleet in harbor, convoyed shipments of gold across the ocean in safety—loads of gold that in former times would have paralyzed national financial markets—made the English Channel her multiple track ocean railway to Europe with no loss by Zeppelins or submarine; fought in Africa, at the canal, at the Dardanelles; grappled with the Turk and the Bulgar; changed generals and admirals in command; changed cabinets; fed the armies of France; gave arms to Russia; maintained the armies and the governments of Belgium and Serbia and altogether advanced \$3,000,000,000, or three times the national debt of the United States, to her war allies.

While the United States has been trying to find out how to build military rifles in quantities and has unfilled orders for them representing hundreds of millions of dollars, England has been turning out rifles by the million for herself and her allies, cannon by the thousand, boots and coats by the million for herself and her allies, and, wonder of wonders, she has done all this, is doing it, is yet to do more, and has now her manufacturing, her trade relations and her overseas commerce unimpaired. Yet she has grabbed the trade of the world, so that her enemies are struggling on half rations with food, rubber and metal supplies from the outside world practically cut off except as new territory is taken.

This is a gigantic physical power and a trade and war power combined never before dreamed of. It puts in the shade all that the world previously knew of Great Britain's financial power. Nobody dreamed two years ago that the war cost to Great Britain was to be beyond \$5,000,000,000 or \$6,000,000,000. It is today more than twice that sum, and Great Britain is prepared to double it again. But stupendous, and even beyond all previous estimates, as is this financial power, the physical and mental power manifested by Great Britain is the marvel of marvels.

The British Lion was regarded as a money bag of trade and a whelp of the seas. Great Britain's ability to put 10 per cent. of her population under arms, to feed and equip her Allies and at the same time to maintain her credit and commerce throughout the world was something never dreamed of within or without her empire before this war.

No economist ever counted the wealth in credit, gold reserves and securities power that is now showing forth in the British Empire. No student of men and nations ever pictured forth the war spirit of the British people that could be so roused in a righteous cause. No student of religion or social order ever gauged the spirit of self-sacrifice that is now lighting the path of the nation in war.

This is the people's war. It is the war of democracy that has built the British Empire around the globe. It is not a war of kings, lords or nobles. It is a war in defense of all the civilization, peace and honor for which England has stood and in which she has made progress for more than a hundred years.

The Prussians could possibly measure the wealth of England, count her population and take toll of her guns, big and little. They numbered her military men, her business men and her idle and leisure classes, and outside of her navy, her wealth and her trade she was by a Prussian military census as nothing. But nowhere in the world was there anything by which to measure the slumbering soul of that people. It is fighting mad today, and getting madder every minute. The stigmas and insults to credit and honor from Wash-

ington only increase the resolve of her people and their faith in the invincibility of the righteous cause. For this they are willing to pledge everything in sacrifice for justice upon the altar of their battle fires.

To what martyred souls runs back this heritage of noble spirit only the historian of the future may attempt to answer. The purpose of the present inquiry is to answer the problem of whence England gets her human power and her metal power.

Twenty-five years ago the machinery of England and her metal workers stamped out the coins of many nations and molded the guns big and little of many more. She was the ordnance maker of the world. Then Germany became her rival as a metal worker and, getting government bounties, or orders, she was able with her cheaper labor and living to cut under the prices of free-trade England. The ordnance fires of England went out except for navy guns and "made in Germany" invaded the island and was stamped over the world on everything from cutlery to rifles and cannon.

But the foundations, in metal workers and the old factories in this business, had not entirely disappeared when the Prussian hosts fired upon Belgium and attempted to roll up the treaties of Europe as scraps of paper. It was on this almost forgotten foundation that England has brought forth her wealth of war material and is organizing to roll the Prussian back over the Rhine in 1917.

England's reserve in man power that can maintain her commercial production, her exports and overseas trade while putting an army greater than that of France in the field needs to be carefully studied.

Germany is living on 30 per cent. per capita of what it was consuming before the war. But England is consuming, feeding and fighting to the extent that her physical force is increased by far more than 30 per cent. The whole nation is fighting, men, women and children. There is nothing else thought of, talked of or worked for throughout the whole country. All the leisure classes, men and women, are one way or another in the war. The women are joining in the ranks of labor, and all labor is today for the country with everything in production, trade and commerce locked in the war issue.

England did not waken to the war power that comes through cutting out luxuries so soon as Germany, but she is on the road to just as thorough a conservation of all forces. All the nations are in the struggle for economic existence that fighting forces may be increased. Germany and England are rather ashamed of it; Russia and France are proud of it. The shutting up of bar-rooms, the closing of places of amusement, the closing of cafes and the shutting off of lights at 9.30 all make for increased man power and greater war efficiency. It is not only a financial and a mental, but a social and economical struggle in Europe such as the world has never dreamed of and of which the people of the United States have almost no comprehension.

Formerly, armies fought battles and the war was wherever the armies moved. Today, 500,000,000 people are arrayed in battle and organizing to win in war. They are organizing in clothing, food, drink, the discarding of luxuries, increase in the energies and hours of labor and in the mutual burdens of all forms of taxation. Any excess profit is promptly taxed. In England more than two billion a year, or one-quarter the cost, is being raised by taxation. Grains are being ground more coarsely, with the result that in bulk they produce 25 per cent. more, a smaller percentage of nutriment is lost, and, the food being richer in nutrition, consumption per capita is diminished without bread cards or other German regulations. In all fighting countries luxuries are being steadily diminished. Cream, fat, sugar, wines, expensive meats and fruits are being steadily reduced in consumption. Champagne is forbidden in Russia; it was never at so low a price in France.

The whole world is coming into a new civilization, a new manhood and a new womanhood and a new strength for both war and peace, and from Washington to San Francisco there appears to be little comprehension of the issues and the economic results that must inevitably flow therefrom.

COAL BRIQUET PLANT AT NORFOLK TO COST \$425,000.

Contracts Awarded for New Enterprise, Which
Will Have Hourly Capacity of Forty Tons
of Briquets.

All contracts have been awarded for the coal briquet plant to be built at Norfolk by the Virginia Navigation Coal Co., recently incorporated with \$500,000 capital, the investment to be \$425,000 for buildings and machinery. The Malcolmson Briquet Engineering Co., Chicago, which will design and superintend the construction of this plant, sends the MANUFACTURERS RECORD the following description:

"The briquet plant proper will have a capacity of 40 long tons per hour of 16-ounce briquets, and the buildings are designed for the machinery to double this capacity.

"Contracts have been let to the Link-Belt Engineering Co., St. Louis, to build a plant to unload and screen run-of-mine coal, to ship lump coal and to place into storage and reclaim therefrom 50,000 tons of screenings; to stock and reclaim 40,000 tons of briquets, and to load and ship briquets. The screening plant will have a capacity of 800 long tons of mine-run coal per hour; the briquet-storage and reclaiming plant will each have a capacity of 200 long tons per hour, and the cost of all of the plants, exclusive of ground and railroad tracks, is approximately \$425,000.

"The briquet machine building is 200 feet long, 60 feet wide, 38 feet roof trusses, built of brick walls, steel roof trusses, doors and window frames and asbestos-protected metal roof. The pitch-storage building is of similar design and construction, and is 240 feet long, 60 feet wide and 22 feet to the bottom of lower chord. The steel work for these buildings and the steel raw coal bins will be furnished by the Virginia Bridge & Iron Co., Roanoke; the roofs will be furnished and erected by the Asbestos Protected Metal Co., Beaver Falls, Pa.; contract for the brick work has been let to Cahon & Hudgins of Norfolk. The Variety Manufacturing Co.'s rolling steel shutter doors and the Detroit Steel Product Co.'s Fenestra sash will be used and installed by the mason contractor.

"One Rutledge press and one Rutledge fluxer, built by the St. Louis Briquet Machine Co., St. Louis; two Ruggles-Coles Engineering Co.'s A-14 dryers, together with a Williams Patent Crusher & Pulverizer Co.'s dustless crusher and pitch cracker, the special machinery for conveying and mixing coal and binder, and all of the concrete foundations and floors for the entire plant, will be installed under our immediate direction."

Revival of Shipbuilding Industry at Pascagoula

Pascagoula, Miss., January 12—[Special.]—Pascagoula has turned again to its ancient industry of shipbuilding. Pascagoula was always noted for its shipbuilding, even long before the Civil War, but the impetus given to the lumber industry during the past decade and the great fortunes to be acquired in the manufacturing of lumber caused it to be neglected to some extent. Owing to the present world scarcity of ships, shipbuilding is now being revived, and all the shipyards here are busy either in repair work or turning out new work. One of the finest vessels ever built at this port is now on the ways at the M. M. Flechas shipyard, Krebs Lake, in this city. It is a three-masted schooner, 170 feet in length over all, 36 feet beam and 13 feet depth of hold, and will register 450 tons burden. It is built by local capitalists, and will cost when completed \$50,000. The lumber is all heart pine, and was specially cut at Laurel, Miss., and shipped to this place over the Alabama & Mississippi Railroad. This shipyard has also on the ways a lumber barge 100 feet length by 30 feet beam and 8 feet depth of hold. The proprietor has just added to his plant a draughting and model room 175 feet long and 30 feet wide.

As already stated in the MANUFACTURERS RECORD, since the completion of the Alabama & Mississippi Railroad, on July 4, 1916, a large quantity of hewn and sawn timber has been shipped into Moss Point over this railroad, to be stored in the fresh water of the Escatawpa River, where it is safe from the attacks of the teredo navalis, or shipworm. This timber is now being taken out and shipped East as fast as the Louisville & Nashville Railroad can provide the cars. Some 50 carloads are expected to leave this week.

News and Views from Our Readers

Louisiana Enjoying Widespread and Diversified Prosperity.

H. A. W. HOWCOTT, Orient Co., Ltd., New Orleans, La.

Reports seem to indicate that Louisiana enjoyed great prosperity in 1916, especially in its cotton district. In 1915 the Louisiana cotton farmers seemed to have made a good crop, many of them paying off debts as far back as five years and having Christmas money left over. In 1916 they seemed to have raised a better crop and obtained better prices, which has given them much spending money.

An indication of this prosperity is shown by the City of Shreveport, a city of approximately 42,000 people, which increased its bank deposits to about \$22,000,000 and in one month's time cancelled 1700 mortgage notes. We wonder if any of Mr. Robert Fullerton's progressive cities of wonderful Iowa can duplicate this Southern record of a "Bourbon Civilized" city.

The rice district likewise seems to have done well. Lake Charles, the largest city of this region, shows a good increase in building construction, with many transfers of real estate. In this rice region are many Western farmers from Illinois, Iowa and other Western States, who seem to have done so well that they have remained amongst and braved the "Bourbon Civilization" and not returned to their old homes in the West.

The sugar region appears to be reviving from its "Free Sugar Solar Plexus Blow," 1916 having brought good crops, good prices and attracted many merchants to return and reopen the stores they closed and abandoned when sugar went on the free list.

New Orleans, perhaps, made as good a record as any Southern city in prosperity, some of its strides being: Bank clearings, 1916, \$1,381,073,094.85, being an increase over 1915 of \$408,907,518.09. Four of its largest banks show deposits respectively of \$32,225,094.40, \$25,111,191.99, \$21,460,338.98, and \$19,617,697.36, which, we believe, is in excess of the great Regional Bank at Atlanta, Ga.

Much is expected of the Farm Land Bank which has just been awarded to New Orleans.

The population of New Orleans is now estimated by the United States Census Bureau at 371,747; by the city directory, 375,000; by the Association of Commerce, 380,000, and by the Cumberland Telephone & Telegraph Co., 395,800. The telephone company is backing its estimate with an expenditure of \$3,000,000, including an eight-story main exchange (which can be made four stories higher when needed) now in process of construction.

We understand that a Chicago building magazine has stated that New Orleans is to enjoy a big building growth during 1917, estimated at \$10,000,000.

Interest Aroused in Monroe Oil and Gas Field.

L. R. WADDEY, Secretary Monroe Chamber of Commerce, Monroe, La.

The Monroe oil and gas field has assumed such proportions as to bring it under the discerning eye of the "big interests."

The first well was started in this field, about 12 to 15 miles north of Monroe, during the past summer, and the Progressive Oil & Gas Co. struck gas at a depth of around 2200 feet, a well producing 3,000,000 feet of natural gas per day. This well was capped and the rig moved west about a mile and another well started. This well produced about 10,000,000 feet of gas at practically the same depth as the first well. This company has now gone back to well number one to continue down for oil. The Ouachita Oil & Gas Co. also brought in a gas well a few days ago estimated at 15,000,000 feet.

It has long been known that gas existed in this territory, and several wells have been drilled in the past in an effort to find oil and gas, but none of these efforts were successful in bringing in large producers of gas or oil, though in practically every instance some gas and traces of oil were found.

Early in the year 1916 several local companies were organized in Monroe and active drilling, with experienced men in charge of the operations and with sufficient capital to see the project carried to a definite

conclusion, with results up to the present time as indicated above.

Some ten or a dozen companies have been organized, leases acquired, and six companies have begun active drilling, and every one is sanguine of finding oil in large quantities to supply the city of Monroe, and, in fact, several cities of similar size.

Franchises have been granted by the city of Monroe for supplying its citizens with natural gas, and the pipe has been ordered for laying the mains. This will mean cheap fuel, and will stimulate to no little degree the industrial growth of Monroe.

Beet Pulp as Food for Stock.

HARRY STILLWELL EDWARDS, Macon, Ga.

For some years I have intended to try and arouse interest in sugar beets in the Southeast, but have lacked time and opportunity, usually. When I was editor of the Macon Telegraph in the 80's I remember that extensive experiments were made in this State with the beet, and that the results surprised everybody. Speaking from memory, my understanding is that the percentage of saccharine was slightly in excess of the far Western beet. For reasons I do not recall the subject lapsed. Possibly cotton took an upward jump. But the chief difficulty was the absence of a convenient market. Today conditions have changed to the extent that while there is as yet not a close market for the sugar elements, there has developed a by-product of immense value and one that might justify production as an independent proposition. I refer, of course, to beet pulp. Beet pulp is now extensively called for in the South's rapidly developing hog and cattle business. It is, as recently declared, the best-known substitute for ensilage, and probably half the price is freight. You will add importantly to the splendid work you are doing for the South if you will take up this subject and inform the public as to its possibilities. A beet plant at Macon would be of incalculable benefit to this whole section.

I am going to test the beet on my own farm this year and submit samples to the State chemist. If a hundred or more farmers will do this they will carry the enterprise through its first and necessary stage. Fed to cattle and hogs, the beets raised will more than pay expenses.

Busy Times at Tuscaloosa.

T. P. KIRBY, Secretary West Alabama Pine Manufacturers' Association, Tuscaloosa, Ala.

Tuscaloosa is rapidly forging to the front with quite an industrial boom. For the last couple of weeks it has been impossible to get office quarters, and there are today a number of applicants on the waiting list. Our hotels are full up nearly every night, and the lobby is a very busy place, and the lumber fraternity are very noticeable among the crowd.

Prices are being maintained in this section, and quite a lot of business is being placed.

Successful Experiment With Municipal Ownership of Public Utilities.

G. TETLEY, Danville, Va.

A special committee of councilmen appointed a few weeks ago to see if some means could not be devised of cutting city expenses has brought out some remarkable figures showing the success, at least locally, of municipally-owned gas, water and electric light.

During the fiscal year which will close at the end of April, these three departments will have paid into the city treasury 40 per cent. of the city's income. Last year there was a clear profit of \$90,000, and the sum of \$237,000 collected from the citizens was turned into the treasury.

Danville is one of the pioneer towns with regard to municipal ownership, for it was in the year 1875 that gas and water-works put up and operated for some time by a private corporation were taken over by the city. In 1885 an electric plant was put up by the city, and

all of the three utilities have been operated municipally ever since at a profit.

Today the physical value of the three plants, not counting franchise values, is estimated at fully \$1,000,000. Electric power made here is used by the Southern Railway Co. for the operation of its electric signal 25 miles north and 125 miles along the main line south through North Carolina. In order to stimulate the use of electric current in the homes of citizens, the municipality a few weeks ago undertook to pay for the cost of wiring the homes, the cost of this work being refunded on the instalment plan by those profiting by this scheme. Gas is sold at 90 cents per thousand net, electricity from 1 cent to 7.2 cents per kilowatt and water at 7½ cents per 1000 gallons net. Frank Talbot is superintendent of these public utilities.

Enlightenment for Outsiders About Conditions South.

L. R. WADDEY, Secretary Monroe Chamber of Commerce, Monroe, La.

Herewith check of the Monroe Chamber of Commerce for \$4, covering subscription to the MANUFACTURERS RECORD.

I take this occasion to congratulate you on the splendid work your publication is doing for the South. If more of such work was done, and done systematically, it would turn more eyes toward the South.

The writer never realized the ignorance about the South by people in other sections of the country so much until last fall, when he took an agricultural exhibit of products grown around Monroe to the Illinois State Fair at Springfield. The crass ignorance of the people with reference to our agricultural products, climatic conditions and health was truly amazing.

I have wondered if it would not be a good thing for the Southern States to exhibit more at these Northern fairs. There were several Northern and Northwestern States represented, but no Southern States.

Busy Year in Building in Prospect for Macon.

BRIDGES SMITH, Mayor, Macon, Ga.

This year promises to be a big one in the building and other improvements in Macon. The new auditorium, for which bonds were issued last year, will be built, the plans for and by which bids can be asked for will be submitted to the Mayor and Council tomorrow night. This will cost in the neighborhood of \$100,000. The Washington Public Library, costing \$50,000 on a \$30,000 lot, will be built as soon as plans can be drawn.

The Chautauqua of the South has been permanently located in Macon, and will call for the erection of auditoriums, club halls, hotel and other buildings on 400 acres of land donated for the purpose by a citizen. It will also call for the temporary remodeling of the old union depot, an immense structure, for a temporary auditorium and assembly place to be used until the new buildings can be erected. This, with the completion of the \$250,000 annex to the hospital and other improvements, will make a busy year for Macon.

One of the Great Papers of the Country.

N. BUCKNER, Secretary Asheville Board of Trade, Asheville, N. C.

The MANUFACTURERS RECORD is one of the great papers, not of the South, but of the entire country, and I feel it is doing a great work for our country.

Helpful and Stimulating Information in Every Issue.

AARON MILHADO, Banker, Norfolk, Va.

Four dollars are herein enclosed in renewal of my subscription to January 28, 1918.

May I avail of this opportunity to voluntarily say in behalf of the MANUFACTURERS RECORD that my belief

is that any individual, firm or corporation desirous of further developing their business could not act more wisely than to become a subscriber, with the intention of regularly analyzing the important, helpful and stimulating information always conveyed through the very interesting columns of its every issue?

I find the MANUFACTURERS RECORD practically indispensable, and firmly believe the same opinion is entertained by all who are familiar with it.

Interested in Peanut Oil Production

EUGENE F. ENSLEN, JR., Engineer, No. 820 Jefferson Bank Building, Birmingham, Ala.

I am endeavoring to interest various parties in different sections of the South to establish mills for peanut oils and stimulate peanut growing.

I would thank you to make note of this fact and state that the writer desires to receive from manufacturers of equipment and machinery adapted to peanut-oil mills data and catalogues and other literature of a trade nature relating to this subject.

Orange Wants a Candy Factory.

F. H. FARWELL, Orange, Texas.

There is a great demand in this town for a Candy Factory. It doesn't take much money, I understand. We thought perhaps that in your acquaintance with Southern industries you might know of an enterprising fellow who knows the business and would be willing to match dollar for dollar with local capital in putting up a factory. \$5,000 is all that's needed. Freight rates on sugar to this point makes it very favorable for pretty near controlling the Texas trade.

Important Factor in Southern Development.

HOWARD SEE, General Manager the Dixie Culvert & Metal Co., Atlanta, Ga.

Permit me to express my high regard for the MANUFACTURERS RECORD. Before I came to the South I was very well impressed with it, but it took actual experience here to make me realize its important value to the entire South. I feel that you have been one of the biggest factors, if not the biggest, in Southern development.

Should Have Co-operation of Every Business Man.

J. P. WALSH, Editor, The New Florida, Palatka, Fla.

Enclosed find check for \$4.00 for renewal of subscription to the MANUFACTURERS RECORD.

You are certainly doing a wonderful work in the development of the South, and you should have the co-operation of every business man, regardless of what lines of business he is engaged in.

Doing a Great Work for the South.

CARNEGIE BOARD, Nashville, Tenn.

I cannot refrain from expressing my admiration and appreciation of the great work the MANUFACTURERS RECORD is doing for the uplifting of the South.

Wonderful Things Done.

A. C. BURNETT, of the A. C. Burnett Company, Cadiz, Ky.

You certainly have a wonderful paper, and the South should be under lasting obligations to you for your many wonderful things done for us.

Fabrics used in the manufacture of rubber tires will be manufactured by the Ten Broeck Tyre Co. of Louisville, Ky. Arrangements for the plant are now progressing.

HOWARD'S SHIPYARDS PASS TO NEW \$4,000,000 COMPANY.

Noted Ohio River Concern, After Making Boats for Southern Waters for Eighty Years, Comes Into Control of Eastern Syndicate.

Louisville, Ky., January 12—[Special.]—Reports which have been current for some time that Eastern capitalists were negotiating for the purchase or control of the Howard shipyards have received confirmation. Only the formal transfer of property to the new concern, known as the Howard Shipyards & Dock Co., is required to complete the deal. The Howard Shipyards & Dock Co. has been incorporated in Indiana with a capital stock of \$4,000,000 by a syndicate of bankers in New York, the president being Charles D. Brazier. All four of the Howard shipyards are involved in the transaction, being located at the following places:

Howard's Shipyards, Jeffersonville; Madison Marine Railway & Dock Co., Madison, Ind.; Queen City Marine Railway & Dock Co., Cincinnati; Paducah Marine Railway & Dock Co., Paducah, Ky., and the Mississippi Valley Marine Railway & Dock Co., Mound City, Ill.

The Jeffersonville representative is Roscoe Kent, who for some time has been connected with the present yards. Mr. Kent said that it was desired to make the Jeffersonville plant the central one and invest \$1,000,000 in converting it into a concern where seagoing freight-carrying steamers of large capacity can be built.

The Jeffersonville Chamber of Commerce and Louisville business men interested in the proposition, which is viewed of vast commercial importance to both cities, lent their energies to securing rights of way for rail connection with the shipyards, which was stipulated in order to insure improvement of the plant. The rights of way and franchise have been guaranteed, assuring the completion of the plans of the new concern.

It is proposed to build tracks over a route of 6200 feet and operate freight cars drawn by electric storage battery engines. This will require an expenditure of only \$3000, as the Howard Shipyards & Dock Co. proposes to build the track and equip it with motive power. About three years will be required to convert the old plant into yards for building seagoing freight vessels. It also is stated that when work is begun on building vessels from 800 to 1000 men will be employed. To keep the plant supplied with material will require the handling of 1100 freight cars the first year.

Four large steamers completed January 8 are probably the last to be built by the noted family of Howards. The largest and most valuable of these boats was the stern-wheel packet John B. Grace, constructed at an approximate cost of \$40,000 for the Bradford Transportation Co. of New Orleans, to be used in the coasting trade out of New Orleans. The boat was 170 feet long, 34 feet beam and five-foot hold. Her boilers are 42 inches by 22 feet, and her engines 14 inches by six-foot stroke. The three other vessels were steel catamaran ferryboats for concerns at New Orleans, Baton Rouge and Amesville, La., and cost about \$25,000 each.

Since 1837 the Howards have been building skiffs, flatboats, barges, boathouses, docks, ferryboats, motorboats, schooners and magnificent floating palaces in the form of passenger steamers and freight carriers for the Ohio and Mississippi rivers. No kind of water craft used on these rivers or their tributaries, or in the Gulf of Mexico, but have been built at the Howard shipyards in the last 80 years.

There is a tradition that before the war it was not unusual for a Southerner to come to Capt. James Howard's yard and tell him that he wanted a steamboat of certain dimensions and style of cabin. No contract was entered into, no inspectors were around to see that the timber was good, but everything was left to the integrity of the builder. When the war came on Southern steamboat owners owed the Howards a lot of money, but no one ever heard them say anything about it. They were, to be sure, strong Southern sympathizers, and the conflict between the States hurt them financially, but they withstood the war and all of the panics which have followed since.

Capt. James and Clyde Howard are sons of Capt. Ed. T. Howard, and, like their father and grandfather, there is nothing that is to be done about a shipyard that they cannot do. Capt. Jim Howard built the Little Captain, a motor-boat which is said to have

never been beaten. Motor-boat building is his hobby.

"We can build anything in this yard, even a battleship, if we could get her out to the ocean," Captain Howard has declared.

Good Work by the Georgia School of Technology.

Atlanta, Ga., January 12—[Special.]—The Chemical Edition of the MANUFACTURERS RECORD, which was issued on September 14, is being used as a supplementary textbook by the Georgia School of Technology of Atlanta for the freshman class.

In order that the young students may assume the right attitude and regard the reading of the edition as an educational opportunity, and not a task to be performed, extra credit in the final ranking of the class is given for those who read 14 of the articles and are able to comment intelligently on them.

The MANUFACTURERS RECORD is constantly referred to in the work of all the classes of the school, but this is the first time that any magazine has been used as a supplement to the courses given. The freshman class is composed of 300 of the country's future engineers, and the "Tech" is seeking to make them the best-posted and best-read men in the field.

Should Be Read Regularly by Every Southern School Boy.

Yazoo City, Miss., January 9.

Editor Manufacturers Record:

Replying to your letter in regard to my occupation, beg to advise that I am a bookkeeper.

I think you have the very magazine I have been looking for, and my only regret is that I have not been taking it since childhood. To my mind, every school boy in the South should read it regularly. 'Twould suggest to their mind the need of the South for trained men and thus inspire their ambition and choice of a vocation.

Mr. G. R. Thomas of this city, county highway engineer, sets a great store by the MANUFACTURERS RECORD. Says he wouldn't give up the MANUFACTURERS RECORD for all the magazines he takes. "Them's my sentiments."

H. H. WILLIAMSON.

Sea Island Cotton Growers to Fight Boll-Weevil.

Atlanta, Ga., January 12—[Special.]—The State Board of Entomology, together with the Valdosta Chamber of Commerce, will hold a sea island cotton convention at Valdosta January 24. Sea island cotton growers from Florida, Georgia and South Carolina have been invited to be present.

This convention is being held in order to discuss the question of growing sea island cotton when the boll-weevil pest covers the sea island territory. It is expected that the farmers and others who should have knowledge of sea island cotton will be on hand to discuss the subject. The Georgia State Board of Entomology, through its entomologist, E. Lee Worsham, and Ira W. Williams, will discuss the boll-weevil and give the results and the experiments conducted for a number of years in breeding this cotton, and the results obtained from the sea island experiment station at Valdosta during the past year.

At the annual meeting of the Agricultural Society of South Carolina in Charleston on the 10th inst. a delegation consisting of the president and three additional members was selected to attend the meeting at Valdosta.

Shoes, Textiles, Etc., for Norway.

GERHARDT LANGFELDT'S SUCCESSOR, Kristiansand S., Norway.

I am interested in cotton and woolen piece goods, cotton, woolen and fleeced underwear, hosiery, silks of every description, rubber shoes, haberdashery, etc. Shall be glad to receive samples, with quotations, from manufacturers and manufacturers' agents. I am using large quantities of these goods, as I am dealing with merchants only. There is great demand for American-made goods here.

GREAT RECORD OF CONSTRUCTION WORK SOUTH.

In Celebrating Twentieth Anniversary of Southern Engineering Company Speakers Point Out Remarkable Achievements Company Has Made.

[Special Correspondence Manufacturers Record.]

Atlanta, Ga., January 10.

An interesting meeting was recently held here by the J. B. McCrary Company, municipal and county engineers and contractors of Atlanta, to celebrate its twentieth anniversary and to afford the engineers and other employees of the company an opportunity to confer for the benefit of 1917 business. More than fifty engineers and superintendents from the company's various engi-

work has grown into a large organization with its employees operating in most of the Southern States.

The McCrary idea, upon which the business was founded and developed, consisted, as pointed out, in the performance under one organization of what had formerly been done by two or three organizations, these including engineering, construction, financing and operating, and the economies occasioned thereby is the underlying basis upon which the success of the company was built.

Other talks included "Our Relations With Banks and Bankers," by Treasurer J. A. McCrary, and "The J. B. McCrary Company Engineering Corporation," by Vice-President W. M. Fambrough. Informal addresses were also made by ex-Mayor Robert F. Maddox, president of the Atlanta National Bank, who touched upon the broadening field for opportunities in the South for engineering and construction work occasioned by the

mobile road known as "The Tamiami Trail" through the heart of the Florida Everglades, from Miami on the east coast to Marco on the west coast of Florida, a distance of approximately 90 miles.

The Tamiami Trail will be the only means of crossing the peninsula of Florida south of Titusville, and will cut off 400 or 500 miles of the journey between points near Miami on the east coast to points near and below Fort Myers on the west coast. The road takes its name from the old Tamiami Trail of the Everglade Indians, which was a canoe route that is practically paralleled by the new road.

The difficulties to be overcome in the construction of this road through an uninhabited territory are great and had been called insurmountable, yet the methods employed by the J. B. McCrary Company are simple and successful.

The illustrations shown give some idea of the character of the Everglade conditions before work was started and after the road foundation had been completed. The canal shown in one illustration was excavated by two dredges. The first one removed the surface muck, placing it to one side and forming a fill, which was leveled preparatory to the placing of hard surface. The second dredge excavated the hard underlying oolitic limestone and placed it along the line of the roadbed. This limestone was then spread and allowed to dry sufficiently, when it was rolled and surfaced. In the air the limestone sets and hardens, presenting a smooth, hard and durable surface.

At the banquet held on the last day many interesting details of the early history of the company were given. Messrs. McCrary, Fambrough and Cook and more than twenty of the engineers and superintendents for the company are graduates of the Georgia School of Technology, and most of the organization is made up of Southern engineers and practical men who grew up with the company.

Like all business enterprises, the early days of the company were not without hard trials and struggles, but, as one of the speakers of the evening said, "the present magnitude of the business is a sufficient testimonial to the success of Mr. McCrary's combination of will, ability and character."

The company has specialized in the planning and construction of water, light, sewerage systems and power plants, and it is claimed that more than 70 per cent. of all the municipal water, light and sewerage systems in the State of Georgia were planned or built by this company.

The company also operates in North and South Carolina, Virginia, Arkansas, Florida and Alabama. It has built between 500 and 600 municipal plants in these States, and more than 1000 miles of hard-surfaced permanent roads in the State of Florida, totaling a cost of more than \$6,000,000.

The general office for these operations throughout the Southeastern territory is in Atlanta.

At the time of the inception of the company most of the engineering and construction work for the South was done by Northern engineers and contractors. The J. B. McCrary Company was one of the first companies at its time to be organized in the South by men born and trained in the South.

Besides the 50 or more employees present at the banquet, there were several invited guests, speakers of the evening. A. F. Giles, Southern manager of the General Electric Co., was toastmaster, and interesting talks were made by Dr. K. G. Matheson, president of the Georgia School of Technology; W. S. Witham, the well-known banker; Walter G. Cooper, secretary of the Atlanta Chamber of Commerce; W. E. Cowles of the Westinghouse Electric & Manufacturing Co.; W. C. Wardlaw, E. H. Thompson of the Crane Company; S. H. Smith, Jr., of the Western Electric Co., and others prominent in the business interests of Atlanta.

The officials of the J. B. McCrary Company are: J. B. McCrary, president; W. M. Fambrough, vice-president and manager; R. L. West, second vice-president; J. C. Cook, chief engineer; J. O. Campbell, secretary, and J. A. McCrary, treasurer and manager of bond department.

RICHARD WOODS EDMONDS.



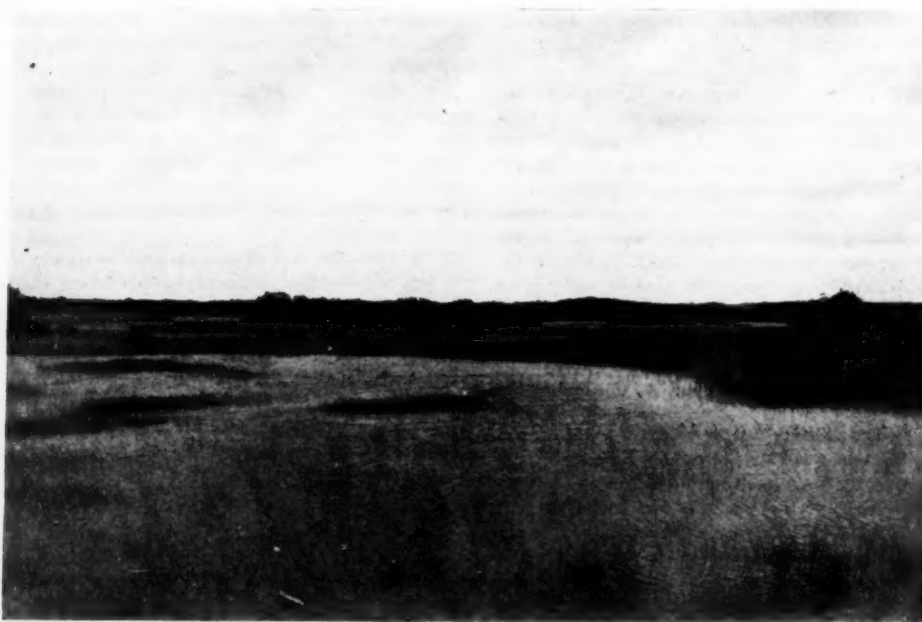
SECTION OF TAMIAMI TRAIL THROUGH FLORIDA EVERGLADES READY FOR TOP SURFACE.

neering and construction undertakings in all parts of the South were in attendance, and three days were devoted to the reading and discussing of papers covering various important engineering and construction problems which the different employees have to meet in their work.

The convention was opened by President J. B. Mc-

present era of great prosperity, and by Jos. A. McCord, governor of the Federal Reserve Bank of Atlanta, who outlined the features of the Federal Reserve Banking system.

The remaining sessions of the convention were devoted to reading and discussing papers presented by the company's various engineers and superintendents, who



A TYPICAL VIEW OF THE EVERGLADES TRAVERSED BY THE TAMIAMI TRAIL.

Crary, who gave a history of the beginning of the company 20 years ago, at which time he traveled over the country working as a foreman or superintendent during the day and attending to his correspondence in the night. He outlined how, from this small beginning, the

have a wide range of experience in all classes of municipal and county work.

One of the most interesting papers of the meeting was that of C. B. Chinn, superintendent of the McCrary company, who discussed the building of an auto-

Chemical Corporation With \$500,000 Capital.

The Ferrodine Chemical Corporation of Salem, Va., has been incorporated with a capitalization of \$500,000 and the following officers: R. W. Kime, president; Chas. D. Denit, secretary-treasurer.

LAYING FOUNDATIONS FOR NATIONAL DEFENSE.

General Wood Outlines Definite Plans That Have Been Formed—Atlanta Inspected as Site for Divisional Post.

[Special Dispatch to Manufacturers Record.]

Atlanta, Ga., January 15.

"The United States Government, after a long, hard fight, has finally gotten under way the establishment of an army capable of meeting any emergency that may arise without even a momentary embarrassment to the armed forces which will represent the ideals and aspirations for which this country stands."

This was the keynote of an address delivered by Major-General Leonard A. Wood at a breakfast given him by the executive committee of the Atlanta Chamber of Commerce Sunday morning, January 14. The General spent Sunday in Atlanta on a tentative inspection of sites adaptable for the location of one of the three divisional posts assigned to the Atlantic seaboard and adjacent territory by the War Department under the new defense act passed by Congress calling for a complete reorganization of the land forces.

The visit to Atlanta was for the purpose of inspecting Fort McPherson, which is a regiment post, and for acquainting the Atlanta civic bodies with the purpose of the Government to locate in the division designated by the War Department as the "Atlanta-Chattanooga" area, one of the divisional posts, which will have a complement of 20,000 men.

General Wood had nothing to say in regard to the foreign policy of the Government or of the relations that existed at this time that might or might not be conducive to war, but he left the distinct impression that the Government would not be caught napping and that the time had arrived for the citizens of the country to realize that the War Department has under way the most complete and perfected plans for the reorganization of the land forces. General Wood outlined in a way the general policy of the reorganization plan. The troops are to be trained along the European idea of having large bodies of men in actual maneuvers. The men for the troops are to be recruited as nearly as possible in the vicinity of the divisional posts, thus creating a spirit of local pride in Government troops.

General Wood, in speaking of the desirability of any given point for the post, said: "It must be distinctly understood that in this matter the Government will not be held up, regardless of what may be the result. The Government of this country will not consider any city whose citizens assume an attitude of greed toward its purchasing agents, and no extortionate prices will be paid for land."

General Wood was accompanied by Major Kilbourne. He left Atlanta Sunday night for Augusta; from there he will go to Aiken and Columbia, S. C.; Fort Caswell, at Wilmington, N. C., and then to Washington.

The Atlanta Chamber of Commerce immediately got under way plans for bringing the post to Atlanta. General Wood stated just exactly what would be the nature of the site and what economic conditions as well as physical ones must be present in order to make any location a feasible one. The prime factor to be considered is railroad facilities; second, the climate and health record, and third, the strategic location of a

place. The place selected for the post must, according to General Wood, have trunk lines leading to the North, East, South and West. The climate must not be too hot and the soil must be of a sandy nature. The point must not be near enough to the coast to be harassed by hostile troop movements or an initial landing. The post will also have a thousand-yard rifle range and an eight-mile artillery range.

Speeches on preparedness and the adaptability of Atlanta for the post were made by Mayor Asa G. Candler, Ivan E. Allen, president of the Chamber of Commerce, and others. Col. J. C. Woodward, president of the Georgia Military Academy, and one of the best-informed men on military matters in the South, made a short talk. He received an ovation. Colonel Woodward said: "The South is coming to the front most rapidly in the matter of preparedness. With the true value of the Birmingham ore fields beginning to be appreciated, with Muscle Shoals, Alabama, and the Chattahoochee River strongly advocated for the Government nitrate plant, and Rome, Ga., looming stronger daily for the armor plant, the Southern States are beginning to be taken at their true value. The Atlantic coast as far north as Baltimore, and the entire Gulf coast will in all probability be defended on land by forces drawn from the South Atlantic post. The unsurpassed railroad facilities, the excellent climate and the strategic value of Atlanta should combine to make this city one of the movement points of all future war activities."

The Atlanta press, real estate men, and, in fact, every shoulder in the civic line-up are behind the movement for preparedness, and the visit of General Wood to the city was the necessary impulse to start under way a wave of activity that will be of some tangible value to the defense plans of the nation.

Brick Highways of Volusia County, Florida.

By JOHN W. SIBLEY, Secretary Southern Brick Manufacturers' Association.

Volusia county, Florida, will find it was a good investment to issue bonds for building good roads, judged by the largely increased number of tourists that are flocking there this season with their automobiles. At the present rate the motorists will in a few years expend enough money in touring over these splendid highways to cover the cost of constructing same, and will give them such a widespread advertising that hosts of others will be attracted each year to this section.

Having recently visited the progressive and thriving city of De Land, which is the county-seat, I was impressed with the public spirit of the people and the metropolitan manner in which its affairs are conducted.

The town was founded in 1876, and was named in honor of its founder, H. A. De Land, formerly of Fairport, N. Y. It has been a social, educational and religious center from its inception, though it has rapidly grown into a great business center in the midst of its classic atmosphere and environment.

The entire business portion of the town was destroyed by fire on September 27, 1886, but out of the ruins has arisen the De Land of today. Her splendid brick business blocks, her well lighted and broad streets and other improvements all show that the citizens of De Land are energetic and progressive.

Soon after the fire John B. Stetson, the famous hat

manufacturer of Philadelphia, visited there, and Mr. De Land interested him in the establishment of Stetson University, which has since grown to large proportions.

The many hotels provide attractive and commodious accommodations for the visitors that annually throng there.

Some of the most valuable orange groves in the State are located at De Land, and nearby at Lake Helen are the great lumber mills of the Bond Company, whose president, Maynard Bond, as chairman of the Board of County Commissioners, was the moving spirit in creating and crystallizing public sentiment in favor of the large bond issues, and his district set the pace for modern brick pavements by adopting the wire-cut lug brick with cement grout filler for the hard surface similar to the road built of that type last year from Orlando to Winter Park in Orange county.

Nearly \$500,000 is being expended in the De Land district in building grouted brick highways, two of which are shown in the accompanying photographs recently made.

These roads lead from De Land as a center to Lake Helen, Daytona, Orange City and De Land Junction, on the main line of the Atlantic Coast Line Railway. The last-mentioned road is to be extended to Crow's Bluff, on the St. Johns River, and it is stated the Clyde steamship line is planning to put on a regular schedule of motor trucks, which will give the city of De Land the full benefit of ocean freight rates, thereby emphasizing another great benefit that will accrue from building roads out of materials that will stand the test of the heaviest kind of traffic.

It is predicted that the incoming Board of County Commissioners will soon perfect plans for an extension of the road system until every section of the county is provided for.

Following the example of Volusia county, the adjoining counties of Seminole and Putman voted large bond issues and are now constructing an extensive mileage of grouted brick highways, which, in addition to those already completed in other counties, will make a system of brick boulevards south from Jacksonville aggregating several hundred miles.

This activity in road building is not confined, however, to the East Coast section of Florida, as Hillsborough, Manatee, De Soto and Pinellas counties, on the West Coast, have also built and have under construction several hundred miles of brick roads, while Osceola and Taylor counties will shortly let contracts for some 50 miles of brick roads.

With Alacrity We Make Amends.

Maynard & Simmons, Geological Mining and Civil Engineers.

Atlanta, Ga., January 13.

Editor Manufacturers Record:

In your issue of January 11, and in your article relative to the Southern Clay Co., on page 61, you refer to us as German engineers. This is no doubt a typographical error, as the original article referred to us as ceramic engineers. It might be advisable for you to make a correction in an early issue. Not that we have any objection to being compared to in efficiency to the German engineer, but for sake of the truth it might be advisable to make the matter clear.

T. POOLE MAYNARD.



GROUTED BRICK HIGHWAY NEAR LAKE HELEN, FLA.



FRESHLY GROUTED BRICK ROAD READY FOR TRAFFIC BETWEEN DELAND

The Iron, Steel and Metal Trades

STEEL AND IRON MARKETS AGAIN ACTIVE.

As Signs of Peace Disappear Pressure for Steel Deliveries Becomes Heavy—Sheet Prices Advance—Other Products Higher—Pig-Iron Again Bringing Premiums—Transportation Situation Improved.

New York, January 15—[Special.]—As the prospects for an early peace between the warring European powers gradually faded away last week the steel and iron markets showed unmistakable indications of returning to those active conditions that prevailed before peace talk occurred. When the answer of the Entente Powers to President Wilson's note became public property buyers of steel renewed their demands for deliveries. This became more insistent, in fact, than it was a month or so ago. Whether it was really due to a lull in peace proposals, exhaustion of stocks or fear of a railroad blockade cannot be determined, as steel consumers were indisposed to take anyone into their confidence. Specifications on steel contracts were at a higher rate last week than during the holidays, but at a lower rate than in the early part of December.

Reports received from Pittsburgh and other steel-production centers late last week were to the effect that improved conditions had taken place in the transportation situation. Embargoes were being lifted by many railroads, and there were better car supplies for the shipment of coke and coal, finished steel products, etc. Nearly all the banked blast furnaces have resumed operations, and steel shipments have closely approached productive capacity again. No headway has been made thus far, however, in moving steel already accumulated at the mills. It is recognized in the steel trade that the present relief may prove only temporary, as the weather in the main has been unseasonably mild, and an actual cold snap would greatly handicap the railroads.

Steel prices were very firm last week in all lines, and several advanced to higher levels. No one expects any softening tendency to develop so long as the mills are so well filled with business and buyers continue to clamor for deliveries.

Ever since the first of the year consumers of sheets have been applying more pressure on mills for deliveries than they did in December. The total requirements of the country in black sheets are evidently abnormally heavy, or the mills would not be under such pressure. Quotations on galvanized sheets may now be considered to be practically nominal. There is no regular market movement, and sales are either of an accommodation character or are of small lots for prompt shipment at what would be regarded as premium prices above the regular market if there was one. There is more or less of a famine in blue annealed sheets, but the situation is not so acute as in the galvanized market, as there are still a number of sellers. Sheet-mill operations have been interfered with somewhat of late by poor deliveries of sheet bars, chiefly on account of the railroad situation, but these deliveries are now somewhat improved. The chief restriction in sheet production is on account of steel mills with sheet departments attached closing all, or nearly all, the sheet mills and disposing of the steel in other channels.

The plate market continues to advance, and the 3.60 cents price is for delivery at mill convenience, with practically no promise when it will be convenient. A sale was made on Friday last of 15,000 tons for export shipment in the second half of this year at 4 cents a pound. For shipment in the second quarter almost any description of plates will bring 4.50 cents, while wide plates for shipbuilding brought 5 cents last week. Even up to about 6 cents has been paid recently for delivery two or three months hence. Ship plates are bringing very substantial premiums over tank quality.

The decline in the iron and steel export trade of late is attracting general attention in the trade. Domestic buyers of steel evidently have not realized the condition as to ocean shipping, and were of the impression that

decreased sales for export were due to the sold-up condition of the mills. While the mills are quite well sold up, still if they had no tonnage on their books they could hardly sell any more steel for export than they are doing at present, as adequate transportation facilities are not available.

Everyone is busy with the problems of the moment, the great trouble experienced in getting freight moved, the taking of inventories and the making of various annual adjustments. When this work is out of the way, and the problems have been solved, more attention is going to be given to the general prosperity of the industry. While the recent slowing down of the export movement had been attributed to the movements for peace, the time is now fast approaching when consideration should be given to the question as to whether or not the termination of the European war will make steel more plentiful and just what part the American steel industry will take in the reconstruction of Europe. There are a few who are of the opinion that the war may possibly last two years longer. If it does, steel will undoubtedly be more plentiful a year or a year and a half hence. Less will go into exports, and there will be a larger productive capacity.

The unfilled orders on the books of the United States Steel Corporation on December 31 last were 11,547,286 tons, or an increase of 488,744 tons during the month. At an average rate of 60,000 tons of ingots per day during the 25 active days of December, there was a production of 1,500,000 tons of steel ingots in the month. This is a decrease of about 200,000 tons as compared with the total output of November. It is thus indicated that the production of rolled steel products was approximately 1,125,000, or at the rate of 45,000 tons a day. The shipments were between 200,000 and 300,000 tons less than in November.

There was considerable demand for pig-iron last week in all production centers, from the viewpoint of it being a quiet market. No regular buying movement is in progress, or is expected for the near future, but there was a fair volume of inquiry from day to day last week, and sales were put through without a great deal of difficulty. Various small lots of basic iron for prompt and January shipment were sold at Pittsburgh, totaling about 10,000 tons. The demand was fairly well distributed among the various furnaces.

Throughout the week some basic Southern iron came to the surface, which was quickly snapped up, either because the consumer was short of iron or the difference in price proved attractive. There was some Southern iron in lots of from 500 to 1000 tons at \$25 Birmingham, or \$29.55 delivered Pittsburgh, which was taken very rapidly, but it is not known if more could be found at that price.

(Dealers' average buying prices for gross tons.)

Bessemer billets (nominal).....	\$60.00—\$65.00
Open-hearth billets (nominal).....	60.00—65.00
Open-hearth sheet bars.....	60.00—65.00
Bessemer sheet bars (nominal).....	60.00—65.00
Forging billets.....	80.00—85.00
Wire rods.....	75.00—80.00
Tank plates.....	3.60—4.50
Steel bars.....	3.00—
Refined iron bars.....	3.25—
Hulls.....	50.00—51.00
Steel hoops.....	3.50—
Cold-rolled strip steel.....	6.50—7.00
Sheets, No. 28 gauge.....	4.50—5.00
Galvanized sheets.....	6.50—7.00
Wire nails, No. 28.....	3.00—
Cut nails.....	3.00—
Plain fence wire, base.....	2.25—
Barb wire, galvanized.....	3.85—
Railroad spikes.....	3.40—

Pig-Iron.

Bessemer, Pittsburgh.....	\$35.95—
No. 2 foundry.....	30.95—32.95
Basic, valley.....	21.50—22.50
Gray forge.....	29.95—30.95
Basic, Philadelphia.....	30.00—32.00
No. 2 foundry, Northern.....	31.75—32.25
Low phosphorus.....	53.00—55.00
No. 2 foundry, Buffalo.....	35.00—
No. 2 South, Cincinnati.....	26.90—27.90
Northern foundry, No. 2 Cleveland.....	30.95—31.95

Scrap-Iron and Steel.

Heavy melting steel.....	\$24.00—\$25.00
Old steel rails, re-rolling.....	28.00—30.00
Old iron car wheels.....	21.50—22.50
Old steel car wheels.....	30.00—31.00
Steel car axles.....	45.00—48.00
Iron car axles.....	45.00—48.00
Low phosphorus.....	32.00—33.00
No. 1 cast scrap.....	22.00—23.00
Heavy cast scrap.....	20.00—21.00
No. 1 railroad wrought.....	25.00—26.00
Cast borings.....	12.50—13.00
Machine shop turnings.....	12.00—12.50
Railroad malleable.....	21.00—22.00
Stove plate.....	13.00—14.00

Strength in Southern Pig-Iron Market, With Great Activity in Furnaces and Mills.

Birmingham, Ala., January 16—[Special.]—The pig-iron market in the Southern territory is still holding a strong position, and quotations are firm. A number of small lot sales were made during the past week, one company, with a production of about 1250 to 1400 tons a day, selling upwards of 1500 tons in one day. The sales, too, it was noted last week, were for domestic use, and inquiries in hand would indicate there is need for a large tonnage, almost in the home territory. Quotations are on a \$24 per ton basis, No. 2 foundry or basic. Reports that some iron in the South had sold at a concession on those quotations are difficult of verification. The furnace companies in the immediate Birmingham district continue to sell, no matter how small the lots, with great care so far as first and second quarters of the year are concerned, for the reason that a goodly portion of the probable make in those periods has been sold ahead, and in some instances there may be trouble in delivering certain grades. The production pace is looking up some, and there has been a complete restoration of the active operations in the furnace lines. Raw material shortages will be improved also in the very near future, coke ovens being started up and the coke demand easing up a little, while the limestone supply will be materially improved when quarries out of commission for months are again put into use. The Sloss-Sheffield Steel & Iron Co. this week will get fluxing qualities from its North Birmingham quarry after a shut-down for many months by reason of flooded pits.

Outward movement of pig-iron in the South again makes an improvement, while home consumption also shows up well. Winter operations at plants melting iron are steadier now than heretofore, the cast-iron pipe-making industry in particular being well supplied with business. Iron producers reiterate statements to the effect that demands of regular or home consumers are being met as promptly as possible, though intimation is given that concessions, so far as prices go, are out of the question.

E. N. Rich, chairman of the board of directors of the Alabama Company, has returned to Baltimore. During his stay in the Birmingham district he made an inspection of properties, discussed conditions and future prospects with Harry W. Coffin, vice-president, witnessed the consummation of a contract for 180,000 tons of coal with the Seaboard Air Line Railroad, delivery at the rate of 10,000 tons per month, and attended to much other business. No statement comes from the office of the Alabama Company as to any deals looking to merger or consolidation of any kind. The company has been selling iron again in small lots at the top-notch prices, the two blast-iron furnaces having passed through the holiday season without the least interruption in the operations. Announcement is made of the severance of connection of W. E. Lenke as vice-president. Mr. Lenke has been in charge of operations of mines for the company since the reorganization, he being named one of the receivers of the old Alabama Consolidated Coal & Iron Co.

Activities continue at the steel plants, at foundries and machine shops in the Birmingham district. At the big steel works of the Tennessee Coal, Iron & Railroad Co. at Ensley, 12 and 24-hour records in production in the blooming mill were exceeded during the past week, the 12-hour output going to 1745 tons, against 1703 tons previously, in October last. The 24-hour record Thursday of the past week showed 3356 tons of steel produced, against 3310 tons on March 31, 1916. Other big runs were recorded recently. The Gulf States Steel Co. has also made good runs since January 1.

The successful use of molten metal from the Thomas furnaces of the Republic Iron & Steel Co. by the American Cast Iron Pipe Co. in the manufacture of pipe is still eliciting attention throughout the country, and inquiries are being made on the project.

Quotations for pig-iron are given as follows:

PIG-IRON.

No. 1 foundry and soft.....	\$24.50 to \$25.00
No. 2 foundry and soft.....	24.00 to 24.50
No. 3 foundry.....	22.50 to 23.50
No. 4 foundry.....	22.25 to 23.50
Gray forge.....	21.75 to 22.75
Basic.....	23.50 to 24.00
Charcoal.....	26.00 to 27.00

OLD MATERIAL.

Old steel axles.....	\$35.00 to \$36.00
Old steel rails.....	20.00 to 21.00
No. 1 wrought.....	20.00 to 21.00
Heavy melting steel.....	19.00 to 20.00

No. 1, machinery.....	18.00 to 18.50
Car wheels.....	16.00 to 17.00
Tram car wheels.....	12.50 to 13.00
Stove plate.....	12.50 to 13.00
Shop turnings.....	10.00 to 11.00

METAL MARKETS DULL AND LIFELESS.

Copper Fails to Respond to Warlike Attitude of Belligerent Nations—Tin Quiet and Irregular—Spelter Producers Taking a Conservative Attitude—Lead Is Dull and Unchanged.

New York, January 15—[Special.]—The expected activity in the copper market, as a result of the continued hostile attitude of the Entente Powers against the Teutonic Alliance, has not materialized. Evidently the copper statistics for 1916, as mentioned in these columns a week ago, had something to do with it, but the way the market has been acting of late has proved very discouraging to producers. Both buyers and sellers of the red metal appear to have withdrawn from the market. The cheaper lots of January electrolytic in the market of late have disappeared. There are several lots of January copper on the market, but holders are evidently of the opinion that there may be a better premium for nearby copper later in the month. At present there is no demand.

The rumors that circulated in metal circles late in the week, and were given due prominence in the financial press, that England is negotiating for another large block of copper, evidently have no foundation in fact. The British Government has a contract for 448,000,000

pounds of copper for shipment from here during the first half of 1917, which, with other small purchases which have been placed with the French, Italian and Russian account, will cover the Allies' requirements until the end of September, and perhaps longer.

The tin market continued quiet and very irregular last week. There was little buying movement of any description, and while some inquiries were received, buyers did not enter the market. Stocks of tin that have arrived from the first of the month totaled 1575 tons, while stocks afloat total 4308 tons.

The spelter market was quite active during the early part of last week, but quieted down toward the end, due to the fact that there was less spelter offered for sale, and not because there were fewer buyers. Interests who were forcing the market on Monday, Tuesday and Wednesday did not publicly make any offerings on Thursday or Friday, while other sellers, whose policy was to meet competition, sold in a small way, but would not commit themselves on large tonnages.

Producers show quite a divergence in views regarding the future, as is evidenced by their method of selling. Thus there were some sellers last week who were selling prompt and nearby deliveries at the market, while there were others who were taking advantage of every opportunity to sell futures.

The lead market was dull and unchanged last week. The lack of orders created an easier feeling with some of the independents and second hands, and on bids the American Smelting & Refining Co.'s price was slightly shaded in some quarters for prompt shipment. There was nothing doing in futures.

THE WEEK'S PRICES.

	Copper.		Lead.		Spelter.	Tin.
	Lake.	Electrolytic.	A. S. & R. Co.	Independent.		
Monday, January 8.....	28.25-28.75	27.75-28.25	1.90	1.90-1.92½	9.55-9.67½	42.75
Tuesday, January 9.....	28.25-28.75	27.75-28.25	7.50	7.50-7.62½	9.42½-9.67½	42.60
Wednesday, January 10.....	28.00-28.50	28.00-28.50	7.50	7.50-7.62½	9.17½-9.30	42.75
Thursday, January 11.....	28.00-28.50	27.75-28.25	7.50	7.50-7.62½	9.17½-9.30	42.62½
Friday, January 12.....	28.00-28.50	27.75-28.25	7.50	7.50-7.62½	9.12½-9.17½	42.50

RAILROADS

WESTERN MARYLAND PLANS APPROVED

Reorganization and Consolidation of Lines May Now Be Fulfilled.

The Maryland Public Service Commission has approved the plans of the Western Maryland Railway Co. for the consolidation of it and its subsidiary companies into one corporation, which will also be known as the Western Maryland Railway Co., and which will include, besides the parent company, the Baltimore & Harrisburg Railway and the eastern and western extension of the same; the Baltimore & Cumberland Valley Railway and the George's Creek & Cumberland Railroad and the Connellsville & State Line Railway.

The stock issues authorized comprise \$18,000,000 of first preferred 7 per cent. cumulative, \$10,000,000 of second preferred 4 per cent. non-cumulative and \$50,000,000 common. The first preferred, to the amount of \$17,760,400, with the exception of \$20,900, which will be exchanged for preferred stock of the Baltimore & Harrisburg Railway outstanding, will be used to pay off \$17,739,500 of indebtedness represented by the 5 per cent and the 6 per cent. notes of the Western Maryland Railway Co., which matured July 1, 1915. All of the second preferred stock will be exchanged for outstanding preferred stock of the old company of equal par value, and \$49,429,230 of the common stock will also be exchanged for old common stock of like par value. The Western Maryland Railway Co. will assume all of the bonded debt and equipment trust certificates of the constituent companies.

This approval will enable the company to carry out its reorganization plans without further delay, as they were previously approved by the stockholders.

W. B. Biddle President of the Frisco—Other Official Changes.

W. B. Biddle has been elected president of the St. Louis-San Francisco Railway Co., succeeding the late W. C. Nixon. E. D. Levy, second vice-president and

general manager, has been made first vice-president, to succeed Mr. Biddle, and N. M. Rice, third vice-president, has been made second vice-president. The third vice-presidency is left vacant, but an election to fill it may take place soon.

C. B. Gorsuch has been appointed superintendent of the Baltimore & Ohio Railroad at Baltimore, succeeding P. C. Allen, resigned to engage in other business. Mr. Gorsuch was superintendent at Pittsburgh, and he has been succeeded there by T. J. Brady.

J. H. R. Parsons, general passenger agent of the Southern Pacific lines at Houston, Tex., has been made vice-president and general manager of the Southern Pacific lines in Louisiana, according to a report from New Orleans, and he will hereafter be located in that city, where he was formerly general passenger agent. Chas. S. Fay was also appointed traffic manager for both freight and passenger departments at New Orleans, where he has been general freight agent.

PENNSYLVANIA RAILROAD'S PLANS AT BALTIMORE.

Company Shows a Disposition to Proceed With at Least Part of the Work.

At the annual meeting of the Pennsylvania Railroad Co., March 13, the stockholders will be asked to approve an increase in the indebtedness of the company amounting to \$75,000,000. This is to enable the directors to issue from time to time, as may be required, various amounts of either the general mortgage bonds or the capital stock heretofore authorized, to provide for capital requirements in the near future, including maturing obligations.

It is expected that part of this \$75,000,000 will be employed for the improvement of the Pennsylvania Railroad terminals at Baltimore, plans for which have been under consideration for several years, and the fulfillment of which in their entirety will necessitate an expenditure of about \$12,000,000. The plans have been held in abeyance owing to a disagreement between the company and the city authorities with regard to the changes projected at the Calvert Station terminals, in the heart of the city, the particular point at issue being the city's demand that electricity be used as motive

power in the Calvert yards for all movements, including switching. This the railroad company said was practically impossible of fulfillment because of operating conditions. However, recently the company has indicated a disposition to proceed with part of its plans, and it has been in communication with the municipal authorities, but it says that nothing can be stated at this time concerning the work contemplated.

The plans, it is understood, provide for additional tracks to carry the increased volume of traffic, especially freight, either through or around the city, which may be done by means of a belt line to be constructed or by the building of two new tunnels to parallel each of the two tunnels now in use, and this would include the handling of all trains through these tunnels with electric locomotives. An enlargement of the Calvert Station yards is also proposed, but the plans for them have been modified. Whether it has been decided to abandon the idea of constructing a tunnel under the Patapsco River for freight service in connection with a belt or cut-off line does not yet appear.

EXTENSION TO DEVELOP COAL MINES.

25,000 Acres in Tennessee to Be Opened by the Tennessee Consolidated Coal Co.

An extension of the Tracy City branch of the Nashville, Chattanooga & St. Louis Railway is to be constructed immediately, the plans having been approved by President John Howe Peyton. This branch runs to Coalmont, in Grundy county, and the extension will be from there northeast to Mill Creek, near Tatesville, Tenn., 13 miles, to develop new coal mines. Big steam shovels are already on the ground to start work. Preliminary survey for the extension was made about a year ago.

There are about 25,000 acres of coal lands which will be mined as a result of this extension. The coal lies in the Sewanee vein, but it is said to be harder than the coal mined at either Tracy City or Whitwell. It is proposed to have the mines ready for operation as soon as the new line is completed, which is expected in about eight months with favorable conditions prevailing. They will be operated by the Tennessee Consolidated Coal Co., and will, it is stated, yield even a greater tonnage than the Tracy City mines, which have been operated since 1858 with an average daily output of 800 tons for the entire period.

\$800,000 Ohio Valley Electric Railway Bonds Sold.

The Fidelity Trust Co. of Baltimore heads a syndicate which has purchased \$800,000 of the first mortgage 5 per cent. bonds of the Ohio Valley Electric Railway Co. of Huntington, W. Va., the proceeds of which will be used to retire underlying bonds. There is no immediate construction in contemplation, but there remains unissued out of a total authorized issue of \$2,000,000 of these first mortgage bonds about \$320,000, which might be employed when desired for construction purposes. The railway serves, in addition to Huntington, the towns of Ashland, Catlettsburg, Ceredo and Kenova, Ky., and Ironton, O., the population of which is steadily increasing as well as that of the intervening territory traversed by the lines. The syndicate was oversubscribed.

MOBILE & OHIO ROAD MAY CHANGE HANDS.

Southern Railway Willing to Transfer Control to Responsible Parties.

The acquisition of the New Orleans & Northeastern Railroad by the Southern Railway and the latter's disposition of its interests in the Alabama & Vicksburg and the Vicksburg, Shreveport & Pacific railways is followed by the announcement from Meridian, Miss., that the Southern is also ready to give up its interest in the Mobile & Ohio Railroad if it can find a proper purchaser, and President Fairfax Harrison is quoted to that effect.

In the course of an inspection of the New Orleans & Northeastern Railroad Mr. Harrison stopped at

Meridian, where he addressed the Board of Trade, and he is reported to have said, after referring to the important part which the Mobile & Ohio Railroad had taken in the growth of the city:

"The Southern Railway is now willing to relinquish all claims upon the Mobile & Ohio, provided we can get our interests out. We have never taken a cent out of the property, but during the 10 years that we have operated it have put back into its development an average of \$1,000,000 a year after having discharged our obligation to the stockholders. We are willing to see the Mobile & Ohio Railroad operated as a separate and distinct property. Indeed, in all save the larger matters of policy, the management is now distinct. The Mobile & Ohio is not an integral part of the Southern Railway. The interests of the two lines are not the same, and the tendencies of traffic are not the same. The Mobile & Ohio operates North and West, while we operate North and East. The time may come for the entire separation of the Mobile & Ohio from the Southern."

LARGEST LOCOMOTIVE IN THE SOUTH.

Virginian Railway Gets Triple Articulated Compound Engine to Haul Immense Coal Trains.

The Baldwin Locomotive Works of Philadelphia has completed and delivered to the Virginian Railway for use on its lines a large triple articulated compound locomotive which is apparently the most powerful railroad engine yet built. It is of the same type as the big engine built for the Erie Railroad in 1914, and while the latter, according to the technical data, is slightly heavier, the Virginian locomotive is a little the more powerful. The new engine weighs 844,000 pounds, and has a tractive force of 166,300 pounds; the Erie engine weighs 853,000 pounds, and its tractive force is 160,000 pounds. The principal difference in the appearance of the two engines is in the wheel arrangement, the Virginian locomotive being 2-8-8-8-4, with 56-inch driving wheels, while the Erie locomotive is a 2-8-8-8-2, with 63-inch driving wheels. The engine and tender combined, for the tender is in these types made practically part of the whole locomotive, are about 105 feet long. The accompanying illustration is an accurate picture of the huge machine.

Pulling unusually heavy coal trains over Clark's Gap Hill, near Elmore, W. Va., is the particular work to which this new locomotive will be put. It is numbered 700, and cost more than \$80,000, but it is said that this contract price could not now be duplicated on account of the increased cost of labor and materials established since the building of it began.

In this type of locomotive there are really three engines combined to operate with steam supplied from one boiler. It will be observed that there is one set of cylinders, pistons and driving wheels at the forward end, another set in the middle of the machine and a third at the rear, the cylinders for the latter being under the back end of the cab, and the driving wheels under the tender, the extraordinary weight of which gives them the necessary adhesion upon the rails to develop tractive force in sufficient quantity. The tender alone is over 33 feet long. It carries 13,000 gallons of water and 12 tons of coal. Of the total weight of the locomotive and tender, 726,000 pounds rest on the

driving wheels, 36,000 pounds on the front truck wheels and 82,000 pounds on the back truck wheels.

To supply the enormous quantity of steam necessary to operate such a big engine a huge boiler is provided, measuring 9 feet 2 inches in diameter at its largest point and 8 feet 4 inches at its smallest. The steam pressure when the engine is at work is 215 pounds per square inch. The firebox is 15 feet 8 inches long and 9 feet wide. It is about 7 feet 10 inches deep at its front end and 6 feet 4 inches at the back end. The total heating surface is 8120 square feet. The superheater surface is 2059 square feet.

There is one fact about this engine which will impress everyone with its great weight and size more than any other. It is this: The weight carried by the rear truck wheels at the back of the tender (82,000 pounds) is equal to the total weight of an express passenger locomotive of 30 years ago. In other words, the entire engine weighs much more than 10 of the old passenger locomotives.

The cab is roomy, and the fittings are conveniently arranged. There is, of course, a power reverse mechanism, the advantages of which, as far as simplifying the arrangement of the cab fittings is concerned, is most apparent in a locomotive of this size. The equipment includes a pyrometer and a low water alarm. Furthermore, where practicable, the railroad company's standard details have been used in the building of this engine. The driving tires and driving boxes interchange with those of the Class M-C Mikado type locomotives that are employed in heavy freight service on the low-grade sections of the road.

The construction of this locomotive for the Virginian Railway now makes the fourth of this type in existence, for the Erie Railroad, since purchasing the first one, nearly three years ago, has gotten two more.

New Equipment, Etc.

Paris & Mt. Pleasant Railroad contemplates purchasing some new equipment.

Southern Pacific Railway has ordered 24 large Santa Fe type locomotives from the American Locomotive Co. The road is also reported in the market for 125 drop-bottom gondola cars and 300 tank cars.

Southern Railway has ordered 100 tons of bridge work from the Virginia Bridge & Iron Co., Roanoke, Va. Columbia, Newberry & Laurens Railroad has ordered a consolidation locomotive from the Baldwin Locomotive Works.

Pennsylvania Lines West are reported to have ordered 75 locomotives from Baldwin's.

Baltimore & Ohio Railroad is in the market for 300 tons of bridge steel.

Texas & Pacific Railway contemplates purchasing equipment as follows: 400 composite coal cars of 50 tons capacity, 100 composite convertible ballast cars, 100 tank cars of 10,000 gallons capacity, 16 passenger cars, 5 dining-cars, 3 combination baggage and express cars and 2 combination passenger and baggage cars.

Richmond, Fredericksburg & Potomac Railroad is reported getting prices on 300 or 400 box cars.

Street Railway for Union, S. C.

A franchise to build and operate a street railway at Union, S. C., has been granted to E. F. Kelly and

others. Storage battery cars will be used, and the length of track will be about 3½ miles. R. A. Easterling is also interested.

Railroad Notes.

The Southern Railway plans to erect on highways which cross its lines at grade warning signs 300 feet distant on each side of the tracks. They will be placed on the right side of the road for the warning of automobilists and others, and they will be in addition to the usual "stop, look and listen" signs which are near the track.

The annual report of the Texas Railroad Commission, covering its year ended June 30, 1916, shows that there was a total length of lines in Texas on that date of 15,655 miles, this including branches as well as main lines. The increase as compared with the same date a year before was 20 miles.

Will the Warning Be Heeded in Time?

The MANUFACTURERS RECORD warns the country that all the world is one mighty munitions factory, and that the United States is fattening on the blood of Europe. That publication has never been an alarmist organ, and its editor deserves the attention of the whole people when he says: "The work of universal military training should not be postponed a single day beyond the time necessary to pass a bill through Congress for its establishment. * * * The time may come when the world will cease from war, but there is no sign of it at present. The war god is rampant. The struggle of civilization against barbarism, of democracy against autocracy, is on, and on to the finish."—Houston (Tex.) Post.

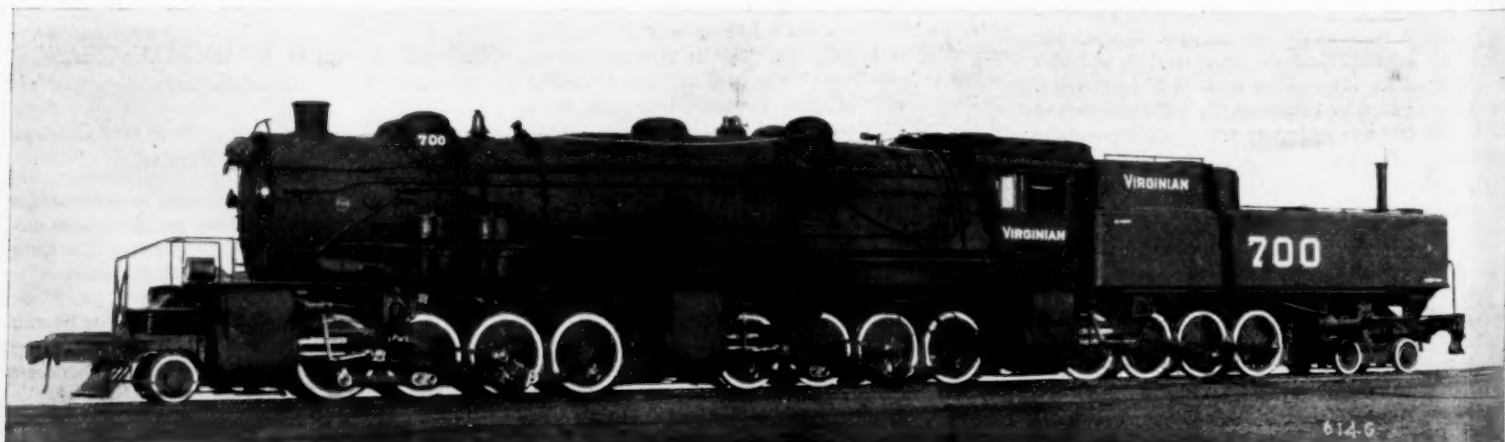
Development by De Bardeleben Coal Co.

Three thousand acres of coal land near Tuscaloosa, Ala., will be developed by the De Bardeleben Coal Co. of Birmingham. Concerning the development, Henry T. De Bardeleben, president, writes to the MANUFACTURERS RECORD:

"We have four drifts in operation. Began to produce coal January 1, reaching an output of 100 tons daily for the first week. We expect these drifts to give an output of 500 tons daily by February 1. The plant is equipped with coal washer and facilities for loading coal aboard boats and barges. All shipments from this point will be by water, and the coal is destined for consumption at New Orleans and Mobile, principally for steamship bunkage."

New Coal Company With \$2,000,000 Capital.

Among the new coal companies chartered in West Virginia during the week is a \$2,000,000 enterprise, with plans for developing coal properties in Barbour and Taylor counties. This is the Simpson Coal Co., and its incorporators are David Williamson of Wendell, W. Va.; George Faull of Pittsburgh, J. W. Galloway of New York and John T. Manson of New Haven, Conn.



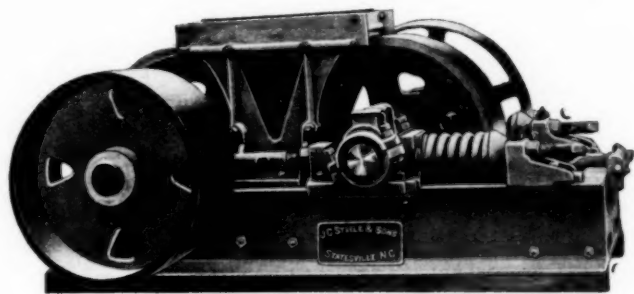
TRIPLE ARTICULATED COMPOUND LOCOMOTIVE FOR VIRGINIAN RAILWAY.

MECHANICAL

Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

Heavy Clay Crushing Machinery.

J. C. Steele & Sons, Statesville, N. C., manufacturers of clay-working machinery, have added to their line a "heavy-duty smooth-roll crusher," which they especially designed to meet the requirements of brickmakers having rough clay which they find difficult to grind fine enough to produce smooth brick without considerable expense. These new crushers now permit of handling such clay economically and thoroughly, so as to make the brick fine and perfect. An illustration herewith shows one of the machines. The rolls are 32 inches in diameter, and their size enables them to take clay which rolls of lesser diameter would not handle. The capacity of the crusher depends only upon the speed at which it is operated. The machine is heavily built, well bal-



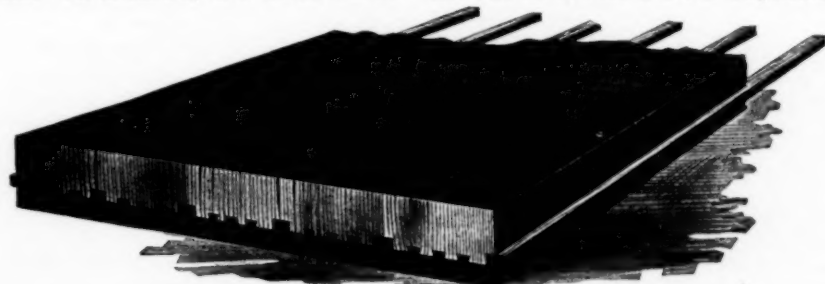
HEAVY-DUTY CLAY CRUSHER.

anced, and will stand up under any reasonable service. The shells or rings that form the rolls are ground true, and they may be renewed when worn out. The shafts, which run in long bearings best adapted for the conditions attending the manufacture of clay products, are four and seven-sixteenths inches in diameter. The bearings for the slow rolls are furnished with springs to relieve strain should a solid substance be encountered in operation. The feed roller is driven by a pulley 28x14 inches, and the slower roll by a pulley 34x8 inches. The weight of the machine is about 9000 pounds.

"Bloxonend"—A Unique Flooring Material.

A unique, durable and almost wholly noiseless flooring material is provided by the C. J. Carter Lumber Co. of Kansas City, Mo., in its original "Bloxonend." This name is phonetically descriptive of the product, for it is composed of blocks set on end and attached by dovetailing to grooved baseboards, the joints between each strip of flooring being made close by the use of slip tongues, known as "splines," which fit into the grooves. This kind of flooring comes in sections 8 feet long, the joints being not only dovetailed, but glued, and there is a small percentage of sections less than 8 feet in length, these being the result of cutting out defects.

"Bloxonend" was invented by C. J. Carter, who has



"BLOXONEND" FLOORING AS IT APPEARS WHEN BEING LAID.

had a life-long experience as a lumberman. He developed his idea, gradually perfecting the manufacture of the product after years of exhaustive experiment. The process of making this material consists of dovetailing the ends of the blocks to the baseboard, then smoothing the block surface and dressing and grooving the edges to fit as tightly and perfectly as the boards in a well-laid hardwood floor. The grain of the blocks being at

right angles to the grain of the base, special machinery for smoothing the block ends and grooving and dressing the sides is required. The making of the blocks themselves and dovetailing them rapidly onto the baseboards also demands complicated mechanism, this machinery having a capacity of 320 blocks, or 40 linear feet, of compact finished flooring per minute.

The manufacturers of this flooring material say that the end of the wood grain being exposed to the wear, provides a surface which is practically everlasting. It is particularly desirable for trucking or where much walking is necessary. The surface is described as smooth and safe, with definite resiliency, which adds much to the comfort of workers and minimizes loss from breakage if fragile articles are dropped. It will not sliver or warp, and its quietness makes it ideal for store flooring. Its appearance is compact and attractive.

It is remarked that this material should not be confused with creosoted wood-block flooring. In addition to the advantages of the latter, "Bloxonend" is said to have many individual merits, one of them being economy and simplicity in laying. It does not require an especially-laid foundation or base, for it can be laid on ordinary

joists or girders, because the blocks are not loose. The material is sent from the factory, which is at Kensett, Ark., untreated, but if a floor is to be exposed to dampness, treatment is recommended according to necessity. The illustration herewith shows "Bloxonend" as it appears when it is being laid.

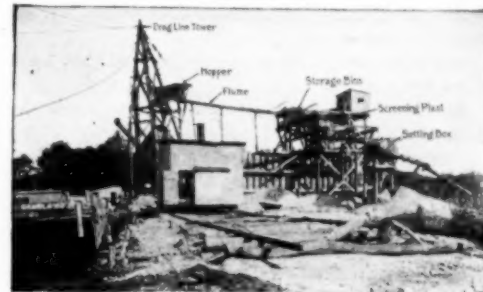
Wood blocks used as flooring have demonstrated their advantages when employed in factories, warehouses, mills, machine-shops, stables, docks, piers, bridges, freight yards, etc., and "Bloxonend" is manufactured in several standard sections to meet unusual requirements, thus: 1-inch blocks on 1-inch base, 1-inch blocks on 2-inch base, 2-inch blocks on 1-inch base and 2-inch blocks on 2-inch base. The surface dimensions of the blocks are 1½x3½ inches. The 1-inch blocks finish ¾-inch high and the 2-inch blocks 1¾ inches high. Special sizes will be manufactured with thicker base if required for carrying extra-heavy weights.

"Link-Belt" Machinery Enlarges Capacity of Sand and Gravel Plant.

The Link-Belt Company of Chicago, manufacturer of labor-saving machinery for the handling of stone, cement and other materials, has accomplished the transformation of an ordinary drag-line plant into a washery for the West Jersey Sand & Gravel Corporation of West-

ing illustration shows the improved plant. H. D. Pratt, Philadelphia, was the engineer.

The screening plant consists of three "Gilbert" type screens, which are so arranged that a duplicate set can be added later. They are placed over three ground storage bins, which were made by building two partitions, thus getting three sizes of product on the ground. These screens are operated by Link-Belt drives from a small steam engine situated on top of the bins. The sand and water are separated by a counterweighted settling box, the Link-Belt sand separator, mounted on a small wooden tower. The material in the ground storage piles is picked up and reclaimed by a mast and



"LINK-BELT" MACHINERY AT WESTVILLE, N. J.

gaff outfit, which either builds out the storage piles for further capacity or loads direct to the scows.

This plant is operated by four men—one in the drag-line tower, one fireman, one man in charge of the screening plant and engine and one man on the mast and gaff outfit. The capacity is approximately 600 yards in 10 hours, which can be doubled without much additional expense.

The layout is a good example of what can be done with a small expenditure for machinery, to give four or five sizes of cleaned products. The entire plant is run by a 100-horse-power boiler. The water is elevated and delivered to the screens and flumes by a two-cylinder steam pump, and except for an occasional cleaning out of the fine mesh screen to remove pebbles that lodge in it, the equipment from the hopper to the sand piles, requires no attention.

The use of ground storage bins in connection with a mast and gaff outfit, or locomotive crane, is a very economical way to equip a plant of this kind, as the amount of storage available is practically unlimited. The crane can be used to pull out the material from the ground bins, and build storage piles of any capacity required, which can be readily reclaimed by the same machine when delivering either to cars or scows. In this way the objection to an enclosed bin is overcome. A bin of 1000 yards capacity has its limitations, because if there is a certain slow-moving size of product, and the compartment for this product is full, the rest of the plant has to shut down until it is gotten rid of in some way. This is usually accomplished by means of an overflow chute or a belt conveyor to a separate storage pile; but in a plant of the type described here, a greater flexibility is obtained, and at a lower first cost of the installation.

The Cotton Movement.

In his report of January 12, Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 165 days of the season was 9,421,251 bales, an increase over the same period last year of 1,247,269 bales. The exports were 3,371,871 bales, an increase of 856,526 bales. The takings were, by Northern spinners, 1,634,199 bales, a decrease of 751 bales; by Southern spinners, 2,656,319 bales, an increase of 527,136 bales.

To Manufacture Window Glass.

Window glass will be manufactured by the Bridgeport (W. Va.) Window Glass Co., which has been incorporated by W. T. Robinson and A. R. Stallings of Parsons, W. Va.; A. E. Talbott, Chester O. Davisson and O. L. McDonald of Clarksburg, W. Va. This enterprise is capitalized at \$150,000.

Good Roads and Streets

SOUTHERN HIGHWAY ACTIVITIES.

Details in regard to road and street undertakings and bond issues, briefly mentioned below, are given under the proper headings in our "Construction Department" and "New Securities," published elsewhere in this issue.

Bonds Voted.

Petersburg, Va.—City will issue \$250,000 bonds to improve streets, etc.

San Marcos, Tex.—Hays county voted \$75,000 bonds to construct roads.

San Angelo, Tex.—City voted \$25,000 bonds for paving.

Sumter, S. C.—City voted \$75,000 bonds for paving.

Bonds to Be Voted.

Darlington, S. C.—City votes February 15 on \$50,000 bonds to pave streets in business section.

Hattiesburg, Miss.—Forrest county votes January 30 on \$100,000 bonds to complete link of highways within county.

Keyser, W. Va.—Mineral county votes February 10 on \$140,000 bonds to improve roads.

Manchester, Tenn.—Coffee county votes March 10 on \$250,000 bonds to grade, macadamize and gravel roads.

Newport News, Va.—City votes February 17 on \$50,000 bonds to improve streets.

Contracts Awarded.

Bradentown, Fla.—Manatee county awarded contract for 20 miles of hard-surfaced roads.

Corsicana, Tex.—Navarro county awarded contract for 45 miles of gravel road construction.

Houston, Tex.—City awarded \$6750 paving contract Fort Smith, Ark.—City awarded \$12,499 paving contract.

Tulsa, Okla.—City awarded \$113,636.73 contract for 44 blocks of asphalt pavement.

Contracts to Be Awarded.

Baltimore, Md.—State receives bids until January 30 for 5.93 miles of State highway, etc.

Charleston, W. Va.—Kanawha county will construct 3.2 miles of hard-surfaced road.

Murfreesboro, Tenn.—City receives bids until January 19 for 22,900 square yards asphaltic concrete pavement, 11,750 linear feet combined curb and gutter, 1600 square feet concrete gutter, 3500 square feet concrete sidewalk.

Wiggins, Miss.—Stone county will construct 18-mile highway; \$40,000 to \$50,000 available.

Southern Districts for Federal Road Work.

The administration of the Federal-aid road law was placed by Congress with the Office of Public Roads and Rural Engineering of the Department of Agriculture, and this will involve a large amount of work incidental to the supervision of the funds. This has necessitated a reorganization of the Office of Public Roads, so that the work can be better handled.

P. St. J. Wilson has been made chief engineer of the office, in charge of all engineering work, and J. E. Pennybacker, chief of management in charge of all other work.

In order to better handle the details of this nationwide work, the country has been divided into 10 districts, each of which will be in charge of an official as district engineer. The various districts in which the Southern States have been placed, together with the names of the engineer in charge and the location of his office, are as follows:

District 5.—Nebraska, Iowa, Kansas and Missouri. J. C. Wonders, district engineer. Headquarters in Omaha, Neb.

District 6.—Arkansas, Louisiana, Oklahoma and Texas. J. D. Fauntleroy, district engineer. Headquarters in Fort Worth, Texas.

District 7.—Michigan, Illinois, Indiana and Kentucky. J. T.

Voshell, district engineer. Headquarters in South Chicago, Ill.

District 8.—Florida, Georgia, Alabama, Mississippi, South Carolina and Tennessee. J. T. Bullen, district engineer. Headquarters Montgomery, Ala.

District 10.—Pennsylvania, Ohio, West Virginia, Virginia, Maryland and North Carolina. H. K. Bishop, district engineer. Headquarters Washington, D. C.

A system of general inspection has also been provided, this to be in charge of T. Warren Allen and E. W. James.

TEXTILES

Cherokee Spinning Mill Plans.

Plans and specifications are being prepared for the yarn mill to be built at Knoxville, Tenn., by the Cherokee Spinning Co. J. E. Sirrine of Greenville, S. C., the architect-engineer in charge, plans a one-story 207x132-foot brick construction mill, with steel sash, to be equipped with 5000 spindles and accompanying machinery. This equipment has been purchased. The Cherokee Spinning Co. was recently mentioned as organized with a capitalization of \$150,000, the president being M. B. Melendy.

Final Plans for Haynes Mills.

An equipment of 20,000 spindles, 350 looms, electric power drive, etc., is the final decision for the Haynes Mills of Avondale, N. C. This company has heretofore been mentioned as organized with \$300,000 capital, etc. Its carding and spinning mill will be a two-story 260x100-foot structure, and its weaving mill will be a one-story 320x100-foot building, both of brick mill construction. George E. Ladshaw of Spartanburg, S. C., is the architect-engineer in charge.

Highland Cotton Mills.

Contract has been awarded for the 5000 spindles, with accompanying machinery, noted in November as to be added by the Highland Cotton Mills of High Point, N. C. This company has also doubled its capital, and expects to build mill No. 2, to be equipped with 12,000 spindles and accompanying machinery for spinning fine combed yarn.

\$100,000 Hosiery Knitting Mill.

Children's hosiery will be knit by the Tennessee Textile Mills of Chattanooga, chartered with a capital of \$100,000. J. Walter Cummings, Clyde Keene, Clifford Fryar, S. J. McAlester and Will McAlester incorporated the new company.

Spinning Company With \$300,000 Capital.

A cotton-yarn mill will be built by the Hickory (N. C.) Spinning Co., which has been chartered by George N. Hutton, A. M. Kester, H. J. Holbrook, J. D. Elliott and E. C. McKenzie. This company has a capital stock of \$300,000.

1000 Dozen Pairs of Hose Daily.

The equipment has been ordered for a mill to be established at Gadsden, Ala., with a daily capacity of 1000 dozen pairs of hose. It includes 100 knitting machines and the electric power drive. This enterprise is that of the Davis & Allcott Company, which has been organized with a capital of \$50,000 and the following officers: W. B. Davis, president; Charles Allcott, vice-president; Robert E. Davis, secretary.

Highway Knitting Mill.

Five hundred dozen pairs of fine seamless hosiery in gray is the daily output of the Highway Knitting Mill, Icard, N. C. This company was recently organized with D. B. Mull as president and W. Y. Frazier secre-

tary-treasurer. It has a two-story 100x50-foot building equipped with 100 knitters, 20 ribbers, 10 loopers, 5 sewing machines and 50 horse-power electric drive.

To Manufacture Jute Bagging.

Machinery costing \$36,000 will be installed for the manufacture of jute bagging to cover cotton by the Greenville (S. C.) Bagging Co. This is a new corporation chartered with a capitalization of \$50,000 and the following officers: Benjamin Margolius, president; D. L. Margolius, vice-president; Horace A. Tansill, secretary, treasurer and manager.

Textile Notes.

Geo. D. Dobbins, South Bethlehem, Pa., may build a knitting mill in North Carolina.

The Ridgeview Hosiery Mill, Newton, N. C., will install additional machinery, build employees' dwellings, etc.

The Griffin (Ga.) Hosiery Mill contemplates adding 35 knitting machines to its present equipment of 25 knitters.

Simon Shapinsky, Roy A. Burd, A. L. Boyd and others, Louisville, Ky., have incorporated the Falls City Mills Co., with \$50,000 capital.

The Anchor Mills, Huntersville, N. C., will not build any addition. December report regarding this company was erroneous.

Sulphuric Acid Production in 1916.

The production of sulphuric acid in the United States in 1916 was much greater than in 1915. The estimated production of sulphuric acid of strengths of 50, 60 and 66 degrees in 1916, expressed in terms of 50-degree acid is 4,475,000 tons, an estimated increase over the production in 1915 of 600,000 tons, or more than 15 per cent. The increase was distributed about equally between acids of strengths of 50 and 60 degrees, as there was a small decrease in the production of acid of strength of 66 degrees.

The most notable feature in the sulphuric acid industry was the enormous increase in the production of acids of strengths greater than 66 degrees. The estimate shows a production of these stronger acids of over 1,000,000 tons, as against a production of less than 200,000 tons in 1915. It is not feasible to express the amount of these higher acids in terms of 50-degree acid; therefore the total given for them is in addition to the total given for acids of strengths of 66 degrees or less.

The estimated output of acids of strengths of 60 and 66 degrees includes by-product acid produced at copper and zinc smelters. The output of acid so produced in 1916, expressed as 60-degree acid, amounted to nearly 950,000 tons, or practically the same as in 1915. However, over 110,000 tons of acid of higher strengths was produced at these smelters, a quantity nearly double that produced in 1915.

The market conditions throughout the country are reported to have been on the whole better than in 1915, and the value of the product will probably be somewhat higher than it was even during that year of high prices.

The estimates are based on returns received by Philip S. Smith of the United States Geological Survey, Department of the Interior, from more than 95 per cent. of the producers and on estimates of the outputs of the rest. It is believed that the figures are reasonable, and that they will approximate very closely the final figures, which will be made up when the complete returns are received.

Deep Water in Charleston Harbor.

Illustrative of the capacity of the ship channel into the port of Charleston, S. C., the Evening Post of that city recently reported the arrival there of the steamship Edgar F. Luckenbach, Captain McLean, drawing 32 feet 3 inches and having almost two feet of water clear under her keel at near high tide. The Luckenbach carried a cargo of 12,500 tons of nitrate of soda which she brought from Chile via the Panama Canal. She was docked at the Seaboard terminals on the Cooper River.

Concrete Institute Meeting and Cement Show.

The thirteenth annual convention of the American Concrete Institute will be held at Hotel La Salle, Chicago, Ill., February 8 to 10.

This Institute, which is doing a comprehensive work in the interest of the uses of cement, and standardizing the best methods by which to build concrete work, is attended annually by representative engineers, technical men, contractors and others interested in the uses of cement. The preliminary program provides for the following papers:

"Slag and Cinders as Aggregates," by Sanford E. Thompson, consulting engineer, Boston, Mass.
 "Cost Accounting and Organization," by Leslie H. Allen, Aberthaw Construction Company, Boston, Mass.

"Relations Between Engineer and Contractor," by C. A. Crane, secretary, General Contractors' Association, New York City.

"Concrete Columns with Cast-Iron Core," by L. J. Mensch, contracting engineer, Chicago, Ill.

"Building Codes for Small Towns," by Ernest McCullough, consulting engineer, Chicago, Ill.

Report of Committee on Reinforced Concrete and Building Laws, by Chairman E. J. Moore, chief engineer, Turner Construction Company, New York.

"Recent Tendencies in Industrial Building Construction," by William P. Anderson, president, Ferro Concrete Construction Company, Cincinnati, Ohio.

"Results of Long-Time Tests of Flat Slab Floor," by Arthur R. Lord, consulting engineer, Chicago, Ill.

"Flow of Concrete," by Office of Public Roads and Rural Engineering, Washington, D. C.

"Tests on Thin Flat Dome of Concrete Tile," by Prof. Willis A. Slater, University of Illinois.

"Ornamental Treatment of Concrete on New York Elevated," by S. J. Vickers, architect, Public Service Commission.

"Unit Construction," by John E. Canzelman, civil engineer, St. Louis, Mo.

Report of Committee on Reinforced Concrete Standpipe, by Chairman George A. Sampson of Weston & Sampson, consulting engineers, Boston, Mass.

"Concrete Piles, Plain and Reinforced," by Charles R. Gow, consulting engineer, Boston, Mass.

Report of Committee of Sewers, Plain and Reinforced, by Chairman Wesley W. Horner, engineer of design, Board of Public Service, St. Louis, Mo.

"Reconstruction and Diversion of Sewers under New York Subway," by S. D. Bleich, assistant division engineer, Public Service Commission, New York City.

"Effect of Hydrated Lime on the Strength Absorption and Expansion of Concrete," by Prof. H. H. Scofield, Purdue University.

"A Course of Instructions in Reinforced Concrete," by Prof. William K. Hatt, Purdue University.

"The Relation of Reinforced Concrete to Vibration in Structures," by Morton C. Tuttle, secretary, Aberthaw Construction Co., Boston, Mass.

Report of Committee on Concrete Roads and Paving, by Chairman A. N. Johnson, consulting engineer, Chicago, Ill.

"Friction of Concrete Slabs on Different Supporting Materials," by Office of Public Roads and Rural Engineering, Washington, D. C.

"Essentials for the Successful Construction of Concrete Highway," by William M. Acheson, division engineer, State Highway Department, Syracuse, N. Y.

"Condition of the Wayne County Roads," by A. N. Johnson, consulting engineer, Chicago, Ill.

"Experience in Construction and Maintenance of Concrete Highways in California," by Austin B. Fletcher, highway engineer, Sacramento, Cal.

"Maintenance of Concrete Roads in Connecticut," by Charles J. Bennett, State Highway Commissioner, Hartford, Conn.

"Some Recent Developments in the Construction of Concrete Roads," by William M. Kinney, engineer, Promotion Bureau, Universal Portland Cement Co., Chicago, Ill.

"Artistic Stucco," by John B. Orr, contractor, Miami, Fla.

Report of Committee on Building Block and Cement Products, by Robert F. Havlik, chairman, Mooseheart, Ill.

"Ornamental Products," by A. G. Higgins, manager, Trusswall Manufacturing Co., Kansas City, Mo.

"Concrete Roofing Tile," by A. P. Tarnin.

"The Essentials of Concrete Products Manufacture," by Davis Ewing.

"Concrete Silo Staves, Manufacture and Problems in Marketing," by Portland Cement Association.

"Effect of Width of Slab on Effective Width for Design," by Office of Public Roads and Rural Engineering, Washington, D. C.

"Lessons from Culvert and Bridge Failures," by Thomas H. MacDonald, highway engineer, Ames, Iowa.

Report of Committee on Reinforced Concrete Highway Bridges and Culverts, by Chairman Prof. C. B. McCullough, Corvallis, Ore.

Report of Committee on Concrete Aggregates, by Chairman S. E. Thompson, consulting engineer, Boston, Mass.

Report of Committee on Reinforced Concrete Chimneys, by Chairman Harrison W. Latta of Latta & Roberts, engineers and contractors, Philadelphia, Pa.

Report of Committee on Sidewalks and Floors, by Chairman J. E. Freeman, engineer technical division, Portland Cement Association, Chicago, Ill.

Report of Committee on Nomenclature, by Chairman Prof. A. B. McDaniel, Schenectady, N. Y.

Report of Committee on Fireproofing, by Chairman John S. Sewall, vice-president and general manager of Alabama Marble Co., Gantt's Quarry, Ala.

As usual, the annual Cement Show will be held at the Coliseum in Chicago during the same week. In view of the great amount of construction work under way in all parts of the country, and the increased appreciation of the value of concrete for such work, added interest is given to the Cement Show, and from the list of exhibitors announced there will be represented the country's principal manufacturers of equipment, machinery and supplies used in concrete work of all kinds.

Opportunities for Lumber Mills of Alabama to Profitably Utilize Wood Waste.

That the State of Alabama is losing millions of dollars every year in not utilizing the waste materials from her lumber is the opinion of Howard F. Weiss, director of the forest products laboratory of the United States Government. Mr. Weiss, who has just concluded an inspection of mills in Alabama conducted with a view to stopping the waste, is said to regard the possibilities of turning refuse materials into marketable products as practically unlimited.

The question of a paper mill for the district near Tuscaloosa is now receiving Mr. Weiss' attention, and from his investigation thus far, he is convinced that such a plant, operated in connection with some of the big lumber mills, would prove successful. Exhaustive data has been compiled under the direction of Mr. Weiss, in connection with the possibilities of the Alabama forest waste, and beside a paper mill several other by-product plants are to be considered.

"The possibilities for paper mills, for various kinds of paper by-products plants, for the manufacture of chemicals and any one of the other hundred things which the government has shown can be made from the lumber waste are unrivaled in this section," Mr. Weiss is quoted as saying. "While here I took advantage of the invitation of one of the expert lumber manufacturers in the country to visit and inspect his mill. The plant is the most modern of the country. It is operated upon the most approved style, and the very best methods are employed in all lines.

"But despite these facts there are millions of dollars worth of products which would be extracted from the waste materials around the mill. It has already been shown that over 100 marketable products can be made from lumber waste materials. More than 50 of these can be manufactured and marketed very profitably without fear of competition from other substances."

The manner in which Uncle Sam proposes to assist American lumbermen to rebuild war-devastated Europe, when the present conflict ends, is given in considerable detail in a letter sent by Dr. E. E. Pratt, chief of the Bureau of Foreign and Domestic Commerce, Washington, to R. H. Downman of New Orleans, president of the National Lumber Manufacturers Association. The government has set aside \$12,000 for the investigation of market conditions abroad, and national lumber manufacturers have pledged to co-operate by expending \$50,000 or more in financing the investigations of experts who will be sponsored by Dr. Pratt's bureau.

The commissioners who go abroad will first familiarize themselves with lumbering in all sections of this country. One will be assigned to the United Kingdom, France, Switzerland, Holland, and possibly Spain and Portugal, for the study of their needs in the lumber markets, and the extent to which these needs are now supplied from other sources, together with a detailed report on the use of substitutes for wood in those countries. This commissioner will be in general charge of all the work abroad, as the British Isles are the center of the European industry.

Another investigator will be sent to the Mediterranean countries. A third commissioner will study the operations of the competitors of American lumbermen in Norway, Sweden and Finland, while a fourth will go to Russia, the fifth will go to the Germanic nations. Trade agreements among the European lumbermen, division of territory and the like will be particularly inquired into.

On their return the investigators will again tour this country to which they will have made frequent and extensive reports and will visit individual manufactur-

ers and advise them personally how they can operate to meet the conditions abroad.

Dr. Pratt's letter to Mr. Downman points out that these countries import \$500,000,000 to \$600,000,000 worth of lumber each year, and refers to the enormous business that will be possible when the war ends.

Increased Zinc Output of 1916.

Government estimates of the production of zinc in 1916, made by the United States Geological Survey, Department of the Interior, puts the recoverable zinc content of ore mined in the United States in 1916 at 708,000 tons, a gain of over 120,000 tons, or 20 per cent., as compared with 1915. The Joplin region made the largest gain, with Montana next, but large gains were also made by the Upper Mississippi Valley, Colorado and Tennessee.

The production of spelter from domestic ores was about 553,000 tons, worth about \$150,000,000, and from foreign ores 105,000 tons, a total of 658,000 tons, worth about \$180,000,000, compared to a total of 480,519 tons in 1915, worth \$121,400,000. This indicates a gain of about 169,000 tons and of \$58,600,000 in value, or about 35 per cent. in quantity and nearly 50 per cent. in value. Of the total, there was smelted in Illinois, 180,350 tons; in Kansas, 140,516 tons; in Oklahoma, 164,088 tons, and in all other States, 173,534 tons. Exports of spelter, zinc sheets and manufactures and of brass and brass manufactures were very large.

The apparent consumption of spelter is estimated at 445,000 tons and spelter stocks at 17,300, a reduction of 6500 tons since the midyear. The average price for 1916 at St. Louis of spelter for immediate delivery was about 13.7 cents a pound.

Want Everglades Drainage Fund Administered by the "Everglades Drainage League."

A report from Jacksonville says that suits requesting a receivership for the \$2,000,000 fund for the improvement of the Everglades, which is now being administered by a board of Florida State officials, and seeking to place the work of reclaiming 2,000,000 acres of Everglades lands in the hands of the Everglades Drainage League have been filed there for the league in the name of J. B. Showalter of Pennsylvania. A dispatch says that the bill alleges that the fund has been put to uses for which it was not intended.

Last week the MANUFACTURERS RECORD published a dispatch from Governor Sidney J. Catts confirming the report of the sale of \$3,500,000 of Everglades drainage bonds which were sold to Spitzer, Rorick & Co. of Toledo, O., and he also said that another sale would follow later to push the drainage work.

Building Materials for Africa.

JAMES MCGIFFORD, Manufacturers' Agent, 6 Duncan's Chambers, P. O. Box 1328, Capetown, South Africa.

Put me in touch with manufacturers wishing to be represented in South Africa. I am exclusively a manufacturers' representative, making a market for the different makers I represent, pushing their products and obtaining orders for them which are paid for through their shipping houses at your end or in London. At present there is a special opportunity of introducing hardware lines generally, building materials, galvanized flat and corrugated iron, tools, water tubing and fittings (English threads), wire, nails, brushes, wallboards, etc. I travel the whole of South Africa, and am in close and constant touch with all buyers of this class of products.

For East Indian Trade.

KEDARNATH BABOOLALL, Cawnpore, India.

Kedarnath Baboolall, bankers, yarn, cloth commission agents, importers and exporters Dept. A, Cawnpore, are ready to undertake indenting business and also ready to represent houses of best standing in following goods: Cotton, woolen, linen, silks, embroidery (piece goods); sundry goods, cycles and accessories, stationery, hardware, machinery, etc. Shipment samples required in duplicate if possible. National Bank of India, Ltd., or any bank or bankers in our station.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the post-office will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Ala., Birmingham.—Southern Ry., W. H. Wells, Ch. Engr., Washington, D. C., will construct viaduct on 21st St.; cost to be divided between Southern Ry., Alabama Great Southern R. R., Seaboard Air Line Ry., Louisville & Nashville R. R. and city; cost \$150,000 to \$175,000. (Previously noted.)

Fla., Bradenton.—Manatee County Commissioners, Robt. H. Roesch, Clerk, let contract to Luton Bridge Co., York, Pa., for bridges, Englewood Special Road and Bridge Dist.; bids were noted in December on 4 concrete, steel and wood bridges, etc. (See Road and Street Work.)

Fla., Jupiter.—Palm Beach County Commissioners, Geo. O. Butler, Clk., will construct timber drawbridge across Florida Coast Line Canal (Jupiter River); bids at Clk.'s office, West Palm Beach, until Feb. 6. (See Machinery Wanted—Bridge.)

La., Baton Rouge.—East Baton Rouge and Livingston parishes will erect 2 large steel bridges across Amite River; bids to be asked. Address Thos. C. Foreman, Chmn. of Commission, R. 2, Baton Rouge.

Md., Georgetown.—Maryland State Roads Com., Garrett Bldg., Baltimore, will build bridge over Sasfras River between Georgetown and Fredericktown; 730 ft. long; timber piles cut at water line and capped with concrete piers and concrete superstructure, foundation piers for draw span, etc.; bids until Jan. 30. (See Machinery Wanted—Bridge Construction.)

Miss., Bay St. Louis.—Mississippi Bridge & Turnpike Co., capital \$500,000, organized with J. D. Ervin, Pres.; D. H. Oilner, V.-P.; both of Indianapolis, Ind.; H. L. Harry, 2d V.-P.; Howard Eggleston, Secy. and Civil Engr.; both of New Orleans; Harry J. Boyle, Asst. Secy., Bay St. Louis, Miss.; plans to construct bridge, costing \$500,000, across Bay St. Louis, connecting City of Bay St. Louis and Pass Christian; let contract for construction to Hackendorn Bridge Co.; Hughes Engineering Co., Consit. Engr.; both of Indianapolis. (Lately noted as having plans and specifications for bridge as follows: Length 10,000 ft.; causeway with solid fill extending one-third distance from each side of bay; center portion, exceeding 3000 ft., of series of rein-

forced concrete arches with 100-ft. spans; steel bascule lift draw of 100 ft. clear opening; entire bridge 36 ft. wide with 4-ft. sidewalk at one side; balance of surface for single-track electric railway and double roadway for vehicles; ducts to carry telegraph, telephone and electric wires.)

Okla., Ada.—Missouri, Kansas & Texas Ry., L. F. Lonnblad, Chief Engr., Dallas, Tex., is reported to construct bridge across Canadian River near mouth of New Sandy.

Okla., Anadarko.—Caddo County, Connewango Township, voted Jan. 16 on \$5000 bonds to construct bridges. Address County Commrs.

Tenn., Clarksville.—Montgomery County votes May 1 on \$50,000 bonds to construct 2 bridges across Cumberland River, at Franklin St. and Seven Mile Ferry. Address County Commrs.

Tex., Sweetwater.—Roby & Northern Ry., L. C. Eastland, Gen. Mgr., Hillsboro, Tex., is reported to construct 4 steel and concrete bridges averaging 1200 ft. each.

W. Va., Lewisburg.—Greenbrier County will construct concrete bridge across Little Sulphur Branch on James River and Kanawha turnpike; County Court, John S. Crawford, Clerk, receives bids until Feb. 6; Rader Bros., Engr., Lewisburg. (See Machinery Wanted—Bridge Construction.)

CANNING AND PACKING PLANTS

Ky., Lexington.—Dairy Farm Packing Co., capital \$25,000, inceptd. by Thos. F. Neet, Roberta B. Neey and C. W. Claus.

La., New Orleans.—Roberts-Wiegand Pickle Co., capital \$100,000, organized by P. H. Roberts, 207 Metropolitan Bank Bldg., and others; erect mill and iron-construction building, 21,000 sq. ft. floor space; construction by P. H. Roberts; install canning, bottling and pickling machinery, including 100 H. P. boiler, engine, electric motors, sanitary pumps, and vinegar pumps and tanks.

N. C., Pomona.—Pomona Products Co., D. F. Patterson, Pres., will build cannery; 40x200 ft.

W. Va., Elm Grove.—Winters Packing Co., capital \$25,000, inceptd. by Wilford Winters, L. S. Winters, Geo. S. Jones and others.

CLAYWORKING PLANTS

Tenn., Morristown.—Bricks.—H. L. Douglass contemplates manufacture of sand-lime brick. (See Machinery Wanted—Brick Machinery.)

Tex., Fort Worth.—Pottery.—Fort Worth Stoneware Co. will build pottery; cost \$20,000.

W. Va., Huntington.—West Virginia Paving & Pressed Brick Co. let contract Ward Construction Co. of Cumberland, Md., to construct 2 down-draft brick kilns to manufacture paving and house brick; plans to double present daily capacity of 50,000 bricks; cost of machinery and ovens \$15,000.

COAL MINES AND COKE OVENS

Ala., Birmingham.—Lou-Ala Coal Co., capital \$10,000, inceptd.; D. B. Gore, Pres.; J. M. Gore, Jr., V.-P.

Ala., Birmingham.—Wm. E. Leake is reported interested in plan for organizing company to develop coal and other mineral properties.

Ala., Tuscaloosa.—DeBardeleben Coal Co. will develop 3000 acres; Henry T. DeBardeleben, Pres., Brown-Marx Bldg., Birmingham, advises Manufacturers Record: Have 4 drifts in operation; daily output 100 tons; increase to 500 by Feb. 1; plant has washer and facilities for loading coal on barges, etc.; ship to Mobile and New Orleans. (Lately noted buying 3000 acres, etc.)

Ky., Blanche.—Chappell Coal Co. inceptd. by P. J. Glalway, J. S. Chappell and Wm. Chappell, all of Pineville; will develop coal mine near Blanche.

Ky., Gravity.—Gravity Coal Mining Co., capital \$2400, inceptd. by Geo. A. Daigle, Robt. Lyon and E. R. Short.

Ky., Gravity.—Gravity Coal Mining Co. organized; E. R. Short, Pres.; Robt. Lyon, V.-P.; G. A. Daigle, Secy.-Treas.; Jos. Kelum, Mgr.; develop 230 acres; 200 tons daily capacity. (Lately noted.)

Ky., Louisville.—D. C. & E. Mining Co., recently noted as increasing capital, operates zinc and lead mines in Missouri, P. O. Webb City. (See Mining, Mo., Webb City.)

Ky., Middlesboro.—Hawley Coal Co., capital \$3000, inceptd. by W. E. Price, J. D. Cain and R. L. Maddox.

Ky., Morely.—Cumberland Valley Fuel & Mining Co., 328 Grant Bldg., Atlanta, Ga., lately noted inceptd., will develop 1800 acres at Morely, 3 mi. from Wallins Creek; will open mining machinery bids about March 1; install twin tippie, double incline, electric power machinery; estimated daily capacity 300 to 500 tons; officers (subject to election) include Remsen P. King, Pres.; Geo. Nelson, V.-P.; Omar P. Poole, Secy.; M. M. Holloway, Treas.; J. W. Huffman, V.-P. and Mgr. (See Machinery Wanted—Mining (Coal) Machinery.)

Ky., Pineville.—Ed Purcfield will develop coal land; reopen mine.

Tenn., Grundy County.—Tennessee Consolidated Coal Co., Tracy City, Tenn., will develop 25,000 acres coal lands; preliminary survey has been made.

Va., Drill.—Fuller Coal Co., capital \$10,000, inceptd.

Va., Norfolk.—Virginia Navigation Coal Co. engaged Malcolmson Briquet Engineering Co., Old Colony Bldg., Chicago, to design and superintend construction of coal briquet manufacturing plant; Malcolmson corporation advises Manufacturers Record: Plant will cost \$425,000; hourly capacity 40 long tons of 16 ounce briquets; buildings designed for machinery to double this capacity; let contract to Link Belt Engineering Co., St. Louis, for equipment to unload and screen coal, ship lump coal, place in storage and reclaim 50,000 tons screenings, stock and reclaim 40,000 tons briquets, and to load and ship briquets; screening plant capacity per hour 800 long tons; briquet storage and reclaiming plants will each have hourly capacity 200 long tons; have let all contracts; 200x60-ft. briquet machine building with brick walls, steel roof trusses, doors and frames, and asbestos protected metal roof; 240x60-ft. pitch storage building of similar design; Cabon & Hudgins, Norfolk, have contract for brickwork; Virginia Bridge & Iron Co., Roanoke, furnish steel work for buildings and steel raw coal bins; Asbestos Protected Metal Co., Beaver Falls, Pa.,

furnish and erect roofs; St. Louis Briquet Machine Co., St. Louis, furnish press and fluxer, etc. (Lately noted inceptd. with \$500,000 capital, to build plant, etc.)

W. Va., Alton.—Hayes Coal Co., capital \$5000, inceptd. by A. K. Tenney, J. M. Swick, C. H. Cutright and others.

W. Va., Clarksburg.—H. C. Cooper purchased (from West Virginia Co. of Grafton) 29,000 acres of coal land for development.

W. Va., Fairmont.—Hope Natural Gas Co. is reported to purchase and develop 28,000 acres of gas coal land, plans to include construction of producer gas plants.

W. Va., Flemington.—White Horse Coal Co., capital \$10,000, inceptd. by Wm. T. Gates, Wm. J. Roderick, W. A. Sherwood and others.

W. Va., Miami.—Miami Coal Co., Box 993, Charleston, W. Va., organized; J. T. Lightner, Pres. and Mgr.; F. H. Dunker, Cincinnati, Ohio, V.-P. and Treas.; S. Smith, Secy.; develop 175 acres and probably 700 additional acres; daily capacity 200 tons; pick mining; Clark & Krebs, Constr. Engrs. (In Dec., noted inceptd., capital \$10,000.)

W. Va., Ottawa.—Monte Mining Co., capital \$10,000, inceptd. by Paul Hardy, R. R. Aleshire, C. M. Gohen and others.

W. Va., Ronceverte.—Thos. Adwell contemplates developing coal mines.

W. Va., Star City.—Tropf Coal Co., First National Bank Bldg., Connellsville, Pa., organized; Fred Tropf, Pres. and Treas.; A. C. Stickel, Secy.-Mgr.; develop 200 acres; daily capacity of 500 tons to be increased. (Lately noted inceptd., capital \$200,000.)

W. Va., Volga.—Big Run Coal Co., 415 Sexton Bldg., Baltimore, Md., will develop 300 acres; estimated daily capacity (eventually) 1000 tons. (In Oct., noted as planning installation of electrical mining equipment; capital \$200,000.)

W. Va., Williamson.—Garb Coal Co., capital \$10,000, inceptd. by G. R. C. Wiles and B. Randolph Blas of Williamson, A. G. Rutherford of Thacker, W. Va., and C. M. Gates of Spriggs, W. Va.

W. Va., Wellsburg.—Buffalo Standard Coal Co., 916 Schumbach Bldg., Wheeling, W. Va., organized; J. C. McKinley, Pres. and Treas.; H. B. Lockwood, Secy.; will develop 1200 acres; all machinery is supplied. (Lately noted inceptd., etc., to develop coal lands on Buffalo Creek, Brooke County.)

W. Va., Wendel.—Simpson Coal Co., capital \$2,000,000, inceptd. by David Williamson of Wendel, W. Va.; J. W. Galloway of New York; Geo. Faull of Pittsburgh, Pa., and others; will develop coal mines in Taylor and Barbour counties.

W. Va., Wheeling.—Glen Malson Coal Co., Schumbach Bldg., inceptd. with \$10,000 capital by A. S. Burger, Herman L. Arbenz, Carl O. Schmidt and others.

W. Va., Wheeling.—Pittsburgh-Wheeling Coal Co., organized with R. D. Parrott, Pres., Pittsburgh, Pa.; T. H. Cowell, Secy.; Geo. E. Work, Treas., both of Parkersburg, W. Va.; J. F. Gebhart, Gen. Mgr., Logan, Ohio; develop 75 acres coal land. (Lately noted inceptd. with \$100,000 capital.)

W. Va., Williamson.—Grab Coal Co., capital \$10,000, inceptd. by R. C. Wiles and B. Randolph of Williamson, J. K. Anderson of Charleston, W. Va., and others.

COTTON COMPRESSES AND GINS

Tenn., Cleveland.—Company organized by John W. Cate and others to build cotton gin; daily capacity 30 bales.

Tex., Somerville.—Casper Landelt, E. H. Lang, Chas. Parks and others are interested in erection of cotton gin.

Va., Suffolk.—Dixie Guano Co. will build cotton gin.

DRAINAGE SYSTEMS

Ark., England.—Lonoke County, Drainage Dist. No. 5 (Robt. M. Foster, Sam Dardine and H. W. Clay, Commrs.) will construct drainage system; 900,000 cu. yds. excavation; 3000 cu. yds. levee; clearing 490 acres land; bids until Jan. 19; Dickinson & Watkins, Engrs., Little Rock. (See Machinery Wanted—Drainage System.)

Ark., South Bend.—Frank O. Lowden let lately-noted drainage contract to R. H. & G.

A. McWilliams, 519 Exchange Bldg., Memphis, Tenn.; contractors advise Manufacturers Record: Construction comprises 18 mi. main ditch and laterals, containing 400,000 yds.; open ditch; cost \$40,000; dipper dredge work; drains lands in Lincoln county for farming.

N. C., Statesville.—Snow Creek Drainage Dist., A. R. Bowles, Chrmn., let contract Karr & Moore of Salisbury, N. C., and Fort Wayne, Ind., to construct drainage system; 11 mi. ditches; 24 to 40 ft. wide; dipper dredge work; cost \$35,000; benefits 3000 acres for agriculture; contractors have machinery; construction includes: 363,000 cu. yds. excavation; 2 highway bridges; Will D. Alexander, Engr., Charlotte, N. C. (Lately noted inviting bids.)

ELECTRIC PLANTS

Ark., Rogers.—Edgar Masoner of Bentonville, Ark., and W. A. Wilson of Springdale, Ark., submitted proposition to install \$100,000 electric-light and water plant.

Fla., Panama Park.—City contemplates constructing electric-light system. Address The Mayor.

Ga., Norman Park.—Norman Institute will rebuild electric-light and water plant lately noted burned. T. E. Howell, Supt.

Ga., Summerville.—C. C. Cleghorn and S. C. Martin are interested in organization of company to build electric-light plant; cost \$5000.

Ky., Boonesville.—City voted \$10,000 bonds to install electric-light plant. Address The Mayor.

Ky., Manchester.—City is reported as considering installation of electric-light plant; understood that \$25,000 has been subscribed and small bond issue will be voted. Address The Mayor.

Ky., Stamping Grounds.—W. W. Casley is interested in plan to construct electric-light and power plant.

La., Edgerly.—Company organized by Lee Alford (of Edgerly Grocery Co.), F. P. Hayes, Clarence Alford and W. D. Parker; will install light and power plant; purchased machinery.

La., Shreveport.—Southwestern Gas & Electric Co. contemplates enlarging powerhouse; cost \$100,000.

N. C., Greenville.—City engaged Gilbert C. White, Charlotte and Durham, to prepare plans for lately-noted electric light and water-works improvements; to vote on \$52,000 bonds. (See Water-works.)

N. C., Spring Hope.—City contemplates electric-light improvements. Address The Mayor. (See Water-works.)

Tenn., Nashville.—Jay Light Co., capital \$25,000, inceptd. by S. N. Varnell, A. M. Bryant, B. E. Covington and others.

Tex., Hubbard.—Union Central Light & Power Co., W. A. Bass, Prest., noted in Nov. as to equip and extend transmission lines, is asking prices on further equipment and materials. (See Machinery Wanted—Electrical (Transmission Line) Equipment.)

Tex., Lubbock.—City Council voted bonds to install electric-light plant. Address The Mayor.

Tex., Wills Point.—Wills Point Electric Light Co. will improve plant; increased capital from \$10,000 to \$30,000.

Tex., Wills Point.—Wills Point Electric Light Co. increased capital from \$10,000 to \$30,000 and will improve plant.

W. Va., Logan.—Logan County Light & Power Co., F. R. Weller, Engr., Hibbs Bldg., Washington, D. C., contemplates building \$200,000 addition to electric generating station.

W. Va., Roncverte.—Virginia-Western Power Co., A. C. Ford, Secy.-Treas., Clifton Forge, Va., advises Manufacturers Record: Will build steam turbine plant with automatic stokers and coal-handling devices; purchased line materials to complete transmission system from Alderson to Hinton and Avis, where we have 50-year franchise and contracts with the Chesapeake & Ohio Ry.; soon announce selection of engineers to prepare plans and specifications.

FERTILIZER FACTORIES

Ala., Dothan.—Young, Sanders & Adams organized by J. R. Young and others; will build fertilizer factory with annual capacity of 10,000 tons fertilizer. (See Flour, Feed and Meal Mills.)

FLOUR, FEED AND MEAL MILLS

Ala., Dothan.—Planters Cotton Oil Co. contemplates installing feed mill machinery.

Ala., Dothan.—Young, Sanders & Adams organized by J. R. Young, John Sanders and J. R. Adams; will build feed mill with daily capacity 30 tons feed and fertilizer factory with annual capacity of 10,000 tons fertilizer; cost \$30,000; purchased machinery.

Ga., Waverly Hall.—I. H. Pitts & Son will install feed and peanut-oil mill.

Ga., Whitesville.—W. L. Cotton contemplates installing feed mill.

Miss., Corinth.—B. F. Liddon is Prest. of company to establish plant to manufacture mixed feeds; erect 2-story brick 75x75-ft. probably-fireproof building; purchase and install machinery. (Lately noted.)

Tenn., Carthage.—Rewada Milling Co., capital \$10,000, inceptd. by A. C. Read, T. B. Read, R. W. Boston and others.

Tex., Denton.—Alliance Milling Co., J. C. Whaley, Prest. and John Alexander, V.-P. and Mgr., will construct (day labor) 36-ft. addition to mill; has let contract for machinery; produces flour, meal and feed. (Lately incorrectly noted under Benton.)

Va., Roanoke.—Roanoke Flour & Feed Co., capital \$25,000, inceptd.; T. E. Mason, Prest.; O. W. Tice, Secy.-Treas.

FOUNDRY AND MACHINE PLANTS

Ala., Birmingham.—Stoves.—Birmingham Stove & Range Co. increased capital from \$55,000 to \$122,000.

Ga., Macon.—Handle-Finishing Machinery. D-Handle Finishing Machinery Co., capital \$3000, inceptd. by Warren Roush, Bertie F. Delt and Horace Wright.

Mo., Kansas City.—Railway Frogs, etc.—Walls Frogless Switch & Mfg. Co. organized with \$1,500,000 capitalization and offices at 1112 Waldheim Bldg., J. P. McHale in charge; John A. Martin, Prest.; Harlan J. Smith, Secy.-Treas., both of Pueblo, Colo.; will build plant to manufacture frogless railway switches.

Tenn., Cleveland.—Castings.—Dixie Foundry Co. will enlarge plant so as to double capacity; erecting addition 60x120 ft.; manufacture iron castings.

Tenn., Nashville.—Trucks and Tractors.—Southern Truck & Tractor Co., capital \$10,000, inceptd. by John R. Boxley, Elbert Sullivan, Jr., J. M. Smithson and others.

Tenn., Nashville.—Machinery.—Southern Machine & Foundry Co., capital \$35,000, incorporated by Ed Hartsfeld, S. S. Warren, Sam Hartsfeld and others; succeeds Southern Machine Co.

Va., Fredericksburg.—Gasoline Dispenser.—Visible Gasoline Dispenser Co., capital \$50,000, inceptd.; Arthur D. Nicholson, Prest.; Wm. T. Lowery, Secy.-Treas.

W. Va., Wheeling.—Foundry.—Wheeling Mold & Foundry Co. contemplates increasing capital by \$500,000.

W. Va., Wheeling.—Filler Machine.—Filler Machine Co., capital \$5000, inceptd. by John B. Bellamy, A. S. Paull, A. F. Brady, Jr., and others.

GAS AND OIL ENTERPRISES

Ala., Mobile.—Continental Oil & Gas Co., capital \$5000, inceptd.; Henry M. Lindsey, Prest.; C. G. Parlin, V.-P. and Secy.

Ala., Talladega.—Talladega-Caddo Oil & Gas Co., capital \$40,000, inceptd. by H. T. Stacey, G. W. Slaughter, C. R. Watkins and others.

Ark., Little Rock.—Swastika Petroleum Corp., capital \$30,000, chartered; Beverly Thurston, Prest.; W. L. Herring, V.-P.; E. E. McIndoo, Secy.-Treas.

Ky., Booneville.—Thos. L. Gabbard contemplates organization of company to develop gas and oil; has 600 acres.

Ky., Irvine.—Republic Oil Co. chartered with \$3,000,000 capitalization by Jas. T. Masterson and Wm. C. Leonard of New York, J. H. McClurkin of Irvine, and others; acquires and will develop oil territory in Scottsville and Tennessee fields; drilling additional wells.

Mo., Liberty.—Northwest Missouri Oil & Gas Co. organized with J. A. Montague, Prest.; R. W. Raud, V.-P.; Frank D. Hamilton, Treas.; Elijah H. Norton, Secy.

Okla., Oklahoma City.—McElroy Oil Syndicate, capital \$500,000, inceptd. by F. B. McElroy, R. E. Stanley and F. W. Mangel.

Okla., Bartlesville.—Rekopia Oil Co., capital \$8000, inceptd. by T. B. Reichart, C. C. Koplin and C. R. Hall.

Okla., Enid.—Oil Refinery.—Enid Refining Co., capital \$25,000, organized by V. E. Boling of Tulsa, and W. B. Piper of Watonga, Okla.; will build refinery on 17-acre site; daily capacity 1000 bbls. oil.

Okla., Oklahoma City.—English-American Oil & Gas Co., capital \$50,000, inceptd. by Oscar E. Houston of Oklahoma City, J. M. and E. H. Houston of Clinton, Okla.

Okla., Pawnee.—Gas Plant.—City contemplates voting on \$150,000 bonds to install gas plant.

Okla., Seminole.—Sorata Oil & Gas Co., capital \$100,000, inceptd. by H. C. Thompson, J. D. Campbell and J. H. Killigan.

Okla., Tulsa.—Ivanhoe Petroleum Co., capital \$100,000, inceptd. by O. O. Owens, W. E. Gayer and H. A. Heller.

Okla., Tulsa.—Lucas Drilling & Development Co., capital \$3000, inceptd. by J. W. McNeal and L. W. Baxter of Tulsa and J. E. Lucas of Oklahoma City.

Okla., Tulsa.—Hanover Oil & Gas Co., capital \$35,000, inceptd. by W. W. Kiskaden, Pearl M. Kiskaden and F. C. Kiskaden.

Okla., Tulsa.—Hawatha Oil & Gas Co., capital \$300,000, inceptd. by A. L. Ryan, L. M. Stroud and Randolph Shirk.

Okla., Wynoka.—Stark & Skilling Oil Co., capital \$100,000, inceptd. by W. M. Stark, C. C. Skilling and C. Owens.

Tenn., Nashville.—Scottsville Oil Co., capital \$25,000, inceptd. by John W. Boyd, Byrd Murray, Hamilton Love, Jas. R. Love and Wendell McFadden.

Tex., San Antonio.—Oil Refinery.—Dixie Oil & Refining Co. increased capital from \$100,000 to \$115,000 and will improve plant.

Va., Pulaski.—Distributing Station.—The Texas Co. (main office, Houston, Tex.), will establish distributing station for kerosene and gasoline; 2 steel tanks, each 10x30 ft. on steel structures; also erect storage building for barrels, etc., offices, garage, etc.

W. Va., Charleston.—Blue Ridge Oil & Gas Co. inceptd. by Chas. J. Reubling, Ernest Munster, Fred E. Lang and others, all of Chicago, Ill.

W. Va., Clarksburg.—Shore-Smith Oil & Gas Co., capital \$500,000, inceptd. by J. M. Maupin and J. W. Harbert of Clarksburg, A. O. Kelley of Wallace, W. Va., and others.

W. Va., Hartland.—Price-Hall Petroleum Co. chartered with \$600,000 capitalization to develop 500 acres gas and oil land in Clay and Nicholas counties; M. McD. Price, Prest.; O. L. Hall, V.-P.; both of Hartland; I. W. Bolvin, Field Mgr., Clay, W. Va.; L. H. Cooke & Co., representatives, 42 Broadway, New York.

HYDRO-ELECTRIC PLANTS

Md., Williamsport.—Potomac Light & Power Co., Martinsburg, W. Va. (controlled by Hagerstown & Frederick Ry., M. A. Pooler, Gen. Mgr., Frederick, Md.), will construct electric transmission system from railway company's high-tension lines at Williamsport, to connect with system at Martinsburg, 7 mi., so that railway company will furnish auxiliary power to Potomac company from its steam plant at Security and in turn receive such surplus power as is available from water-power plants owned by it.

Okla., Ada.—Oklahoma Light & Power Co. (controlled by Mainland Bros. of Chicago) will build \$3,000,000 hydro-electric plant on Canadian River, 4½ mi. north of Ada; develop water power and transmit electricity to Ada, Shawnee, Oklahoma City, Guthrie, El Reno, Pauls Valley, Madill, Coalgate, McAlester, and possibly other cities.

ICE AND COLD-STORAGE PLANTS

Ala., Hartselle.—Hartselle Ice & Coal Co., capital \$50,000, inceptd. by Henry Kracker, Abraham Polytsky, W. M. Puryear and H. C. Barkley.

Fla., Bunnell.—Edward Miranda will install 6-ton ice plant.

Ky., Falmouth.—Home Ice Co. of Kentucky will build ice plant; daily capacity, 18 tons; cost \$30,000. Fred Ritter, Mgr.

Md., Baltimore.—Wilson & Co. of New York will build cold-storage plant for meats, groceries and provisions; purchased plant of Sulzberg & Sons Co. at 212 S. Eutaw St., and plan enlargement; building plans by New York architect.

N. C., Lumberton.—M. A. Geddie will install 15-ton ice plant; purchased machinery and contract for electric power to operate plant.

S. C., Columbia.—Crystal Ice & Coal Co. is being organized by Fred Kortright and others; build plant with daily capacity 20 tons ice.

Tex., Fort Worth.—Texas Brewing Co. will build car-icing plant adjacent to brewery; sufficient capacity to ice 12 refrigerator cars at one time; install ice crushers, ice hol-

ing and refrigerating machinery, etc.; cost \$8000; brewery now operates 175-ton ice factory.

Va., Buena Vista.—Buena Vista Ice & Coal Co., R. M. Hughes, Prest., will build 10-ton ice factory. (Lately noted inceptd. with \$15,000 capital.)

Va., Martinsville.—H. A. Ford & Co. will build ice and cold-storage plant; 127x110 ft.; 2 stories; cost, \$35,000.

Va., Roanoke.—Citizens' Crystal Ice Co. contemplates increasing daily capacity of plant from 60 to 120 tons ice.

IRON AND STEEL PLANTS

Md., Sparrows Point.—Shearing Mill.—Bethlehem Steel Corp. (South Bethlehem, Pa.) will build shearing plant for Penn-Mary branch; main structure 1066 ft. long; taking separate bids on foundations, structural iron work, roofing, etc.

Mo., Poplar Bluff.—Iron Furnace, etc.—Butler Iron Co. organized with \$2,000,000 capital; plans to develop 10,000 acres iron ore land; expend \$680,000 to build iron furnace, concentrating plant and chemical plant; W. W. Meebing, Prest., Pittsburgh; M. H. Cutter, V.-P., Chicago; H. F. Landeck, Treas., Oshkosh, Wis.; general office at Poplar Bluff; branch office in The Rookery, Chicago.

LAND DEVELOPMENTS

Ala., Athens.—Sugar Valley Farm, capital \$10,000, inceptd. by Leo M. Wartern, W. A. Kendall, and others.

Ark., Bentonville.—Baker-Smith Land Co., capital \$18,000, inceptd. by Mary D. Baker, W. S. Baker and Lon Smith.

Fla., Calhoun County.—Chipola Valley Realty Co., Room 21, third floor Masonic Temple Bldg., Charleston, W. Va., inceptd. by Robt. H. Miller and Fenton H. Miller of Gauley Bridge, W. Va.; W. E. Connell and L. L. Warren of Charleston, W. Va., and O. J. Henderson of Montgomery, W. Va.; develop 6000 acres; plant orange, grapefruit and pecan groves and truck farms, construct roads and boulevards, develop townsites, etc.

Fla., Miami.—Pastorius & Herron, capital \$10,000, inceptd. to develop and cultivate farms, orchards and groves; Wm. F. Pastorius, Prest.; Wm. A. Herron, Secy.-Treas.

Fla., Tarpon Springs.—Carmen Grape Co., capital \$10,000, inceptd.; E. L. Zimmerman, Prest.; A. C. Zimmerman, V.-P.; F. J. Zimmerman, Secy.-Treas.

Ga., Brunswick.—Glynn Land & Orchard Co., capital \$40,000, organized by R. B. McGregor of Mobile and others; plant about 19,000 acres in oranges in Glynn County.

Md., St. Helena.—Realty Specialists, Equitable Bldg., inceptd. by N. P. Chapman (815 American Bldg.) and C. W. McCann, both of Baltimore; Benj. F. Kagay of Chicago and Geo. B. Marshall of Birmingham, Ala.; develop for residential purposes 67 acres on Old Trappe Rd.; improvements to include electric lighting, water supply, sewer system, sidewalks, streets, etc. (Lately noted.)

S. C., Charleston.—St. Andrews Dairy Farm Co., capital \$2000, inceptd. by L. K. Legge and C. L. Pearlstone.

S. C., Columbia.—City contemplates voting on \$20,000 bonds to improve parks; T. Keith Legare, City Engr. (See Road and Street Work.)

Tex., Brownsville.—Santa Helena Improvement Co., capital \$25,000, inceptd. by A. Albert Browne, J. A. Browne and W. H. Van Horn.

Tex., Crockett.—Big Four Plantation Co., capital \$8000, inceptd. by A. B. Burton, I. A. Daniels, John W. Markham and others.

Va., Lewisetta.—Intermont Land Co., capital \$15,000, inceptd.; E. G. Upson, Prest.; S. A. Duerson, Secy.-Treas., both of Roanoke, Va.

W. Va., Charleston.—Thurston Land Co., capital \$25,000, inceptd. by C. P. Myer, H. W. Myer, John Moore and others.

W. Va., Charleston.—Kanawha Development Co., capital \$5000, inceptd. by I. N. Smith, H. B. Lewis, W. R. Fletcher and others.

LUMBER MANUFACTURING

Ala., Birmingham.—Williams & Voris Lumber Co. of Chattanooga, Tenn., will build mill of concrete and brick construction; manufacture hardwoods only.

Ala., Mobile.—Sheip Lumber Co. will install dry kiln to cost \$5000.

Ala., Montgomery.—Stuart-Bellingrath Lumber Co., capital \$10,000, inceptd. by W. A. Bellingrath, Prest.; M. W. Stuart, Secy.-Treas.

Ala., Stapleton.—Pine Products Co., capital \$15,000, inceptd. by W. D. Stapleton, Lulu Stapleton and C. H. Snowden.

Ala., Wood Bluff Landing, P. O. at Wood Bluff.—B. B. Rudolph Lumber Co., capital \$21,000, inceptd. by Burwell B. Rudolph, John H. Laws and Hugh Henry.

Ark., Little Rock.—W. T. Hale Lumber Co., 707 Center St., plans erecting addition to plant.

Ga., Madison.—Morgan Lumber Co., inceptd., capital \$25,000; W. F. Beam, Godfrey, Ga., Pres.; D. A. Rudisill, Cherryville, N. C., V.-P.; J. W. Carroll, Secy., and L. J. Mauney, Mgr., both of Meridian, Ga.; purchased property of Richardson Lumber Co.; plant equipped; daily capacity 25,000 ft.; roofers a specialty.

Ga., Stillson.—Zickgraf Lumber Co., 411 American Bank Bldg., Savannah, will erect 28x30-ft. mill and 20x82-ft. kiln; construction by the company; has purchased all machinery except stationary engine; daily capacity 20,000 ft. rough lumber; W. C. Zickgraf, Pres.; F. P. Fuller, V.-P.; H. M. Feets, Arcola, Ga., Secy.-Mgr.

Ky., Seco.—W. W. Gibson & Son, Mayking, Ky., has sawmill for lately-noted hardwood development; daily capacity 10,000 ft. lumber. (See Machinery Wanted—Engine and Boiler.)

Ky., St. Helens.—Hieronymus Tie & Timber Co., capital \$10,000, inceptd. by G. D. Hieronymus, Hill Conleton and R. Van Metre.

Miss., Meridian.—Forest Lumber Co., Carl V. Kimball, Pres., will build 40x110-ft. \$5000 mill-construction building; day labor; install 7-ft. band sawmill. (See Machinery Wanted—Engines (Hoisting), etc.)

Miss., Meridian.—Clarence Boyle Lumber Co. of Chicago will build hardwood mill; C. V. Kimball, care of T. C. Carter, is in charge of arrangements.

Miss., Meridian.—Merl Lumber Co., capital \$10,000, inceptd. by W. W. Logan, M. E. Logan and G. E. Knight.

Miss., Paulding.—Fouk Lumber Co. of Texarkana, Tex., purchased 12,000 acres pine timber land; will build sawmill.

Miss., Webb.—Burgess Lumber Co. organized by J. H. Burgess of Hopkinsville, Ky., and others; build mill to manufacture oak, gum and hickory timber, latter to be manufactured into automobile spokes and rims.

Mo., St. Joseph.—Hutchinson Lumber Co., capital \$35,000, inceptd. by H. H. Hutchinson, C. M. Guthrie and E. C. Maxwell.

N. C., Cherryville.—Morgan Lumber Co., lately noted inceptd., will operate acquired plant at Madison, Ga. (See Ga., Madison.)

N. C., Elkin.—South Atlantic Lumber Co., Greensboro, N. C., will build plant.

N. C., Washington County.—R. J. Reynolds Tobacco Co. of Winston-Salem purchased 2500 acres timber land in Washington County and will develop; understood to manufacture cigar box lumber.

Tenn., Jamestown.—Taubert Lumber Co., capital \$1000, inceptd. by Max Taubert, Curt Taubert, B. C. Taubert and others.

Tenn., Johnson City.—American Lumber & Mfg. Co. (lately noted inceptd.), capital \$25,000, by W. S. Smith, Box 518, and others) will erect 60x200-ft. building, with sheds; mill construction; cost \$6000; erection by the company; officers not elected; will install saw and planing mill machinery for lumber and dimension stock, milling in transit, building material, etc. (See Machinery Wanted—Saw and Planing Mill Machinery.)

Va., Pulaski.—Ohio Lumber & Mining Co., capital \$100,000, inceptd.; Schuyler Slager, Pres.; C. A. Hertenstein, Secy.-Treas.; both of Chillicothe, Ohio.

Va., Norton.—McCorkle Lumber Co., Dante, Va., lately noted inceptd., capital \$50,000, organized; M. C. McCorkle, Pres.; M. R. McCorkle, Secy. and Mgr.; will erect building (no contract) and install 6-ft. band mill, cost of machinery about \$30,000. (See Machinery Wanted—Sawmill.)

Va., Wytheville.—C. A. and Wesley Hertenstein and Shuyler Slager of Chillicothe, Ohio, purchased 11,000 acres timber land in Wythe and Bland counties; will install mills.

W. Va., Huntington.—D. E. Hewitt Lumber Co. purchased 3300 acres timber land; timber will probably be sawed in Huntington.

W. Va., Logan.—Logan Planing Mill Co., capital \$25,000, inceptd. by L. E. Steele, John F. Ferrell, Jas. W. Fisher and others.

METAL-WORKING PLANTS

Mo., St. Louis.—Sheet Metal.—Gevecker Sheet Metal Works inceptd. by Harry, Chas. J. and Arthur Gevecker.

Tex., Dallas—Bed Springs.—Dal-Tex Bed Springs Co. will occupy building to be erected by E. P. Yates, 704 Sumpter Bldg., Dallas; structure will be brick; 100x130 ft.; 2 stories and basement, latter 50x70 ft.; total of 30,000 sq. ft. floor space; electric fixtures.

MINING

Ala., Gadsden.—Iron.—Irama Ore Co. organized; W. F. Aldrich, Pres.; Eugene I. Well, Secy.-Treas.; Gaston Scott, Gen. Mgr.; will mine soft red iron ore. (Lately noted.)

Ark., Batesville.—Zinc.—J. A. Herron and associates are reported as planning erection of smelter.

Ark., Clarksville.—Lead and Zinc.—Fernwood Mining Co. succeeds lately-noted Pennsylvania Mining Co.; J. K. Gearhart, Pres. of new company; Fremont Stokes, V.-P. and Mgr.; W. H. Gearhart, Treas.; R. M. Esyter, Constr. Engr. (See Machinery Wanted—Mining Machinery, etc.)

Ky., Asphalt.—Asphalt.—Kentucky Rock Asphalt Co. consolidates Wadsworth Stone & Paving Co. with 683 acres rock asphalt, and Bee Springs Land & Mining Co. with 40,000 acres undeveloped asphalt; W. E. Williams, Lexington, Ky., advises Manufacturers Record: Capital stock \$650,000; main office, Asphalt; Jas. Garnett, Pres., 10th floor Starks Bldg., Louisville; M. M. Logan, V.-P. (State Atty.-Gen.), Frankfort; W. C. Thoma, Secy., Pittsburg, Pa.; Secy.-Treas.; W. E. Williams, Lexington, one of incorporators; has plant with annual capacity 20,000 tons; contemplates to double capacity. (Lately noted organized, etc.)

Miss., Gloster.—Gravel.—Mississippi Gravel Co., 1059 Bank of Commerce Bldg., Memphis, Tenn., operates pit with output of concrete road gravel—Foster Creek concrete gravel. (Lately noted under Memphis as increasing capital.)

Mo., Baxter Springs.—Lead and Zinc.—Big Eight Mining Co. (Fred Braun, E. R. Wheeler and others, all of Galena, Mo.) will develop 40-acre mining lease; will build mill.

Mo., Joplin.—Lead and Zinc.—Anthony Bros., Perry Anthony, Supt., Lincoln, Neb., contemplate development of mines and erection of mill.

Mo., Poplar Bluff.—Iron.—Butler Iron Co. will develop 10,000 acres iron ore land. (See Iron and Steel Plants.)

Mo., Webb City.—Zinc and Lead.—D. C. & E. Mining Co., 1216 W. Main St., Louisville, Ky., E. M. Drummond, Pres., and J. J. McLellan, Mgr., increased capital from \$15,000 to \$300,000; develops 190 acres; daily capacity 2000 tons zinc and lead ores; adding new mill to present 2-mill outfit. (See Machinery Wanted—Air Compressor, etc.)

North Carolina.—Graphite.—General Graphite Co., 1823 Jefferson Bank Bldg., Birmingham, Ala., will be organized with \$1,500,000 capital stock to mine and manufacture graphite in North and South Carolina; J. Standish Clark, Trustee.

Okl., Commerce.—Lead and Zinc.—S. Friends Mining Co., inceptd.; J. W. Cook, Pres.; John West, Secy.-Treas.

Okl., Miami.—Lead and Zinc.—Niangua Mining & Royalty Co., lately noted inceptd., capital \$100,000, organized; E. Warner, Pres., and Wm. O'Bannon, Secy.-Treas., both of Buffalo, Mo.; J. C. Jacobs, Mfr.; will develop 160 acres; open machinery bids in February. (See Machinery Wanted—Concentrating Mills.)

S. C., Kaolin, P. O. at Bath.—Clay.—McNamee Clay Co. acquires mines formerly operated by partnership company; plant is fully equipped. Address E. E. Harper, 97 Cedar St., New York. (Lately noted inceptd., capital \$200,000; Carl C. Law, Pres., Pittsburgh, Pa.; Roy E. Harper, Secy.-Treas., Cleveland, Ohio.)

MISCELLANEOUS CONSTRUCTION

Ark., Newport.—Levee.—City received report embracing 2 plans, from Morgan Engineering Co., Memphis, Tenn., on construction of levee to protect city from overflow; report provides for levee on each side of city, to withstand 27 ft. of water, estimated to cost \$120,000.

Fla., Kissimmee.—Bulkhead.—City will construct bulkhead along lake front; plans by J. R. Little, Engr., Miami, Fla.; Eugene C. Bryan, Chrmn. Bulkhead Com.

Fla., Safety Harbor.—Dock.—Dock Committee, D. M. Pipkin, interested, will construct dock; cost \$6000; concrete piling; wood floor. (See Machinery Wanted—Concrete Block Machinery; Electric Generators.)

Fla., Tarpon Springs.—Dock.—City will con-

struct dock, about 600 ft. long, on Anclote River front. Address The Mayor.

La., Tallulah.—Levee.—Comms. Fifth Louisiana Levee Dist. will construct Cottonwood Levee in East Carroll Parish, Mississippi River, right bank; contents 250,000 cu. yds.; Comms. receive bids until Jan. 22. (See Machinery Wanted—Levee Construction.)

Okl., Tulsa.—Subway.—Missouri, Kansas & Texas Ry., L. F. Lonnbladh, Chief Engr., Dallas, Tex., will construct subway at intersections of Corner Ave. and tracks; cost \$12,000.

Tenn., Dallas.—Natatorium.—Geo. S. Leachman let contract Hedrick Construction Co. of Dallas to construct natatorium; superstructure of brick and tile; 2 stories; materials include enamel brick, terra cotta, marble, composition roofing, etc.; cost \$35,000; plans by Orloop & Orloop, Dallas. (Lately noted.)

Va., Newport News.—City votes Feb. 17 on \$50,000 bonds to improve municipal boat harbor. Address The Mayor.

W. Va., Martinsburg.—Subway.—City and Baltimore & Ohio R. R., R. N. Begien, Chief Engr., Baltimore, Md., contemplate constructing subway under crossing on North Queen St.; estimated cost \$123,000.

W. Va., Wheeling.—Natatorium.—West Virginia State Fair Assn. approved plans by F. F. Faris for natatorium at State Fair grounds on island; 200 ft. long by 8 ft. wide; 12 in. deep at west end and gradually increase in depth to 8 ft.; surrounded by concrete sidewalk 10 ft. wide; concrete building, 150x40 ft., for ladies' dressing-room containing 294 individual dressing rooms; concrete building, 20x28 ft., for men's locker-room, containing 500 lockers.

MISCELLANEOUS ENTERPRISES

Ala., Alba.—Hardware.—Rainer Hardware Co., capital \$6000, inceptd. by O. S. Rainer, W. H. Morrow, W. F. Rainer and others.

Ala., Birmingham.—Paving.—Asphalt Surfacing & Construction Co., capital \$20,000, inceptd.; T. H. Spencer, Pres., Birmingham; A. H. George, Treas., Meridian, Miss.; W. M. Spencer, Jr., Secy., Birmingham.

Ala., Decatur.—Engineering.—Jones & Abshire Co., capital \$6000, inceptd. by H. C. Abshire, Godfrede Jones and R. J. Jones.

Ark., Marshall.—Printing.—Mountain Wave will erect office building; concrete; 25x50 ft. Fla., Chipley.—Limerock Crushing.—C. B. Dunn and associates will install lime-rock crushing plant.

Ga., Lyons.—Dairy.—H. H. Mann will establish dairy.

Ky., Campbellsburg.—Publishing.—Russell Creek Publishing Co., S. N. Ensley, Mgr., organized to publish Baptist paper.

Ky., Louisville.—Publishing.—Kentucky Farming Publishing Co. increased capital from \$12,000 to \$20,000.

Ky., Louisville.—Optical.—Merry Optical Co., capital \$20,000, inceptd. by Fred C. Merry, Chas. L. Merry and Chas. N. Sheldon; all of Kansas City, Mo.

Ky., Providence.—Laundry.—P. M. Cummings, Dyer, Tenn., will equip laundry.

La., New Orleans.—Lighterage.—Southern Lighterage & Wrecking Co., capital \$200,000, inceptd. with M. P. Doullut, Pres.; W. H. Williams, Secy.-Treas., and Paul Doullut, V.-P. and Gen. Mgr.; will operate system of tugs, towboats, barges, etc.; also own and operate pile-driving and wharf-building equipment.

Mo., St. Louis.—Publishing.—Polish-American Publishing Co., capital \$20,000, inceptd. by Anto A. Pardo, Frank Floryanski and Stanislaw Nowak.

N. C., Greensboro.—Laundry.—Progressive Commercial Co. organized to establish laundry; D. F. Mills, 241 E. Market St., Pres. and Mgr.; J. M. McConnell, V.-P.; C. R. Craig, Secy.; has building; will open machinery bids March 1. (Equipment lately noted, under Machinery, Proposals and Supplies Wanted.)

Okl., Miami.—Laundry.—T. S. Evislizer, owner of Miami Laundry, purchased building; will remodel and equip for laundry.

S. C., Charleston.—Lumber Vulcanizing.—South Carolina Vulcanizing Lumber Corp., capital \$300,000, chartered; Fred K. Fish, Jr., Pres.-Secy.; Lambert K. Fish, V.-P. and Treas.; both of New York.

S. C., Columbia.—Abattoir.—City contemplates voting on \$15,000 bonds to erect abattoir; T. Keith Legare, City Engr. (See Road and Street Work.)

Tex., Electra.—Grain Elevator.—Farmers' Elevator Co., J. B. Ferguson, Mgr., will

build grain elevator; reinforced concrete; capacity 50,000 bu.

Tex., Fort Worth.—Dazey-Moore Grain Co. plans to increase elevator storage capacity to 300,000 bu.

Tex., Fort Worth.—Grain Elevator.—E. G. Rall Grain Co. will build grain elevator with capacity of 200,000 bu.; Burrell Construction Co., Contr., Chicago, Ill.

Va., Portsmouth.—Publishing.—Portsmouth Star Corp., capital \$60,000, chartered; Norman R. Hamilton, Pres.; A. McKriggs, Secy.

Va., Richmond.—Hardware.—Newton Woodward Hardware Corp., capital \$50,000, chartered; R. H. Woodward, Pres.; J. W. Newton, Secy.-Treas.

Va., Roanoke.—Dyeing.—Roanoke Steam Dye Works, capital \$20,000, inceptd.; J. M. Roberts, Pres.; J. F. Lorton, Secy.

W. Va., Charleston.—Publishing.—Charleston Leader Co., capital \$50,000, inceptd. by J. O. Rader, J. G. Bunting, Mason Grickard and others.

W. Va., White Sulphur Springs.—Construction.—Mutual Construction Co., capital \$25,000, inceptd. by R. Lee Harper, J. J. O'Farrell, W. B. Hines and others.

MISCELLANEOUS FACTORIES

Ala., Choctaw Bluff.—Turpentine.—Inge Turpentine Co., capital \$5000, inceptd. by Walter H. Inge, Richard Inge, Harry T. Inge and Wm. I. Edwards.

Ark., Fayetteville.—Ice Cream.—Hollipeter, Shonyo & Co. let contract to J. L. Thompson to erect ice cream factory and garage building.

D. C., Washington.—Electrotype.—Potomac Electrotype Co., 506 Fourteenth St., N. W., inceptd. with \$12,000 capital by Chas. F. Dudley, Nettle K. Winchell and others.

Fla., Jacksonville.—Soap.—Royal Palm Soap Co., Tampa, Fla., contemplates building plant.

Fla., Jacksonville.—Hog and Poultry Remedy.—Hog & Poultry Cholera Preventative Co., capital \$20,000, inceptd.; H. H. Lewis, Pres.; Joe C. Townsend, V.-P.; G. W. White, Secy.-Treas.

Fla., Jacksonville.—Clothing.—Florida Garment Co. will double capacity of plant for manufacturing women's wash skirts and suits.

Fla., Melbourne.—Bakery.—Geo. W. Peterson and Chas. P. Nowne will establish bakery.

Ga., Thomasville.—Peanuts.—Farmers' Union Warehouse Co., Roscoe Chastain, Mgr., plans erecting peanut mill and feed crusher.

Ga., Waverly Hall.—Peanut Oil.—I. H. Pitts & Son will install peanut-oil and feed mill.

Ky., Elizabethtown.—Overalls.—Old Kentucky Overall Co. increased capital from \$10,000 to \$50,000.

Ky., Greenville.—Tobacco.—Buren Martin Tobacco Co., capital \$25,000, inceptd. by W. S. Vick, W. M. Martin and C. Y. Martin.

Ky., Irvine.—Explosives.—Cumberland Torpedo Co. is reported to build plant on Miller's Creek to manufacture explosives.

Ky., Louisville.—Films.—Calnay Cinema Corp., capital \$10,000, inceptd. by Jas. Calnay, Olsen G. Fairchild and Jack G. Brehme to manufacture films.

Ky., Louisville.—Cleanser.—Reynolds Corp., R. S. Reynolds, Pres., will establish plant (removal from Bristol, Tenn., where plant was recently partially destroyed by fire); leased building with 60,000 ft. floor space, at 30th St. and Grand Ave.; may build larger plant.

Ky., Mayfield.—Chemicals.—Shure White Chemical Co., capital \$5000, inceptd. by Leon Evans, W. W. Evans and N. E. Thomas.

Ky., Winchester.—Bottling.—J. E. Ware, Stanton, will establish bottling plant.

La., New Orleans.—Macaroni.—Cusimano Macaroni Co. will rebuild burned factory; cost \$75,000.

La., New Orleans.—Pickles, etc.—Roberts-Wiegand Pickle Co., capital \$100,000, organized by P. H. Roberts, 207 Metropolitan Bank Bldg., and others, will install catsup picking machinery, etc. (See Canning and Packing Plants.)

Md., Baltimore.—Optical Glass.—B. Mayer of Bi-Sight Co., Gay and High Sts., contemplates building optical glass factory in Mount Washington or on Belair Rd.

Md., Baltimore.—Refractories.—American Refractories Co., Emil W. Water, Pres., Joliet, Ill., contemplates building large plant on water front; Mr. Winter registered at Hotel Emerson, Baltimore.

Md., Salisbury—Shirts, etc.—Lockett Co., capital \$200,000, incptd. by Frank K. Hoffmann, H. Bartow Farr and Walter E. Hope, all of 49 Wall St., New York; J. McFadden Dick of Salisbury, Res. Agent.

Md., Salisbury—Shirts, etc.—Lockett Co., capital \$200,000, incptd. by Frank K. Hoffmann, H. Bartow Farr and Walter E. Hope, all of New York.

Md., Walkersville—Bakery.—Glade Valley Bakery incptd., capital \$10,000; John V. Nicodemus, Pres.; Thos. R. Saylor, V.-P.; R. Ward Stauffer, Secy.; building plans not decided; construction by local builders; engaged architect; will manufacture bread, cakes, etc.

Miss., Meridian—Bottling.—Meridian Chero-Cola Bottling Co., capital \$10,000, incptd. by Hendrix C. Alford, E. V. Stockton, Sig. Kriegsmann and others.

Mo., Moberly—Creamery.—Moberly Poultry & Creamery Co. plans erection of creamery and poultry-handling plant; probably install refrigerating machinery; cost \$15,000.

Mo., Poplar Bluff—Chemicals.—Butler Iron Co. will build chemical manufacturing plant. (See Iron and Steel Plants.)

Mo., St. Louis—Headwear.—Gram Headwear Mfg. Co. increased capital from \$10,000 to \$40,000.

Mo., St. Louis—Cleaning and Tailoring Supplies.—Arends Mfg. & Supply Co., 1724 Olive St., lately noted incptd., handles dyers, cleaners and laundry machinery. (See Machinery Wanted—Laundry Machinery, etc.)

N. C., Roanoke Rapids—Paper Products.—General Paper Co., capital \$50,000, incptd. by Fred Peck, R. M. Peck and C. W. Graham.

Okl., Ada—Glass Caskets.—American Glass Casket Co. increased capital from \$150,000 to \$500,000; acquires Mound Valley Glass Co. of Kansas.

Okl., New Healdton—Nitroglycerin.—F. P. Bates of Independent Torpedo Co. of Findlay, Ohio, will build plant with daily capacity 30,000 qts. nitroglycerin; 80-acre site; let contract to John Longabaugh of Buffalo, N. Y.

S. C., Orangeburg—Bottling.—Newberry Coca-Cola Bottling Co., capital \$25,000, incorporated by P. M. Smoak and R. R. Brunner.

Tenn., Kingsport—Glass Caskets, etc.—De Camp Glass Casket Co., Memphis, Tenn., will establish plant to occupy 10 acres; reported to erect factory costing from \$125,000 to \$150,000, installing machinery for manufacture glass products, making specialty of glass caskets.

Tenn., Memphis—Cigars.—R. L. Jordan, Pres. Central Cigar Co., is interested in plan to secure establishment of large cigar factory.

Tenn., Memphis—Piston Rings.—Continental Piston Ring Co. increased capital to \$100,000 and will install additional machinery; purchased equipment.

Tenn., Nashville—Benzole Acid, etc.—Auto Products Co. incptd. by A. E. Potter, Allen F. Odell, F. M. Kelly and others; manufacture benzole acid and other chemicals.

Tenn., Nashville—Speedometers.—Core Speedometer Co., capital \$100,000, incptd. by J. H. Core, Jas. Graham, Geo. H. Armstead, Jr., J. H. Zarecor and others; temporary office with Mr. Zarecor in Noel Block.

Va., Norfolk—Shipbuilding.—F. O. Smith Shipbuilding Co., J. R. Seemer, Gen. Mgr., is having plans prepared by B. F. Mitchell of Norfolk for additions to plant; plans provide for machine shop and store house, 52x125 ft., and boiler shop and blacksmith shop, 52x100 ft.; steel frame with brick walls; machine shop 25 ft. high and boiler shop 20 ft.; both buildings to be equipped with traveling cranes; cost of structures, exclusive of equipment, \$20,000. (Noted in Dec. as contemplating erection of ship sheds, machine shop, boiler and blacksmith shops; also installation of machinery to construct and repair wood and iron ships.)

Va., Richmond—Food.—Southern Food Corp., capital \$15,000, chartered; Annie F. Cook, Pres.; Chas. S. Clark, V.-P.; S. T. Leaming, Secy.-Treas.

Va., Salem—Chemicals.—Ferroline Chemical Corp., capital \$500,000, chartered; R. W. Kime, Pres.; Chas. D. Denit, Secy.-Treas., both of Salem, Va.

MOTOR CARS, GARAGES, TIRES, ETC.

Ala., Demopolis—Automobiles.—Coleman Motor Co., capital \$500, incptd. by P. G. Coleman, Mary W. Coleman, L. K. Summers and J. E. Rutledge.

Ala., Demopolis—Automobiles.—Hauze Motor Co., capital \$20,000, incptd. by J. R.

Hauze, Vera C. Hauze, J. B. Whitfield and Manears Whitfield.

Ark., Blytheville—Garage.—Hollipeter, Shonyo & Co. let contract to J. L. Thompson, Blytheville, to erect garage and ice cream factory building.

Ark., Pine Bluff—Automobile Tires.—Riley Auto Tire Co., capital \$10,000, incptd. by Fred J. Ingram, J. S. Ingram, R. M. Kemp and A. C. Kemp.

Florida—Garage.—John D. Cox, care Jonesboro Supply House, Jonesboro, Tenn., contemplates erection of 80x100-ft. 2-story garage; wants plans. (See Machinery Wanted—Architects.)

Fla., Miami—Repair Shop.—J. A. Dann will erect wagon and auto shop in connection with store building. (See Stores, Buildings Proposed.)

Fla., Tampa—Garage.—Hulse Automobile Agency will occupy building to be erected by J. Q. Brantley; structure will be 70x70 ft.; 3 stories; press brick; cost \$25,000.

Ga., Lagrange—Garage.—Lagrange Savings Bank is having plans prepared by Walker & Chase, Candler Bldg., Atlanta, for Ford service station and garage to be occupied by P. W. Smith & Sons, Ford agents; structure will be 1-story; 60x130 ft.; brick, steel and marble; tar and gravel roof; cement and tile floors; steam heat; electric fixtures; plumbing; cost \$9000. (Lately noted.)

Ga., Royston—Garage.—Royston Hardware Co. is having plans prepared by Walker & Chase, Candler Bldg., Atlanta, for Ford salesroom and garage service; 1 story; 85x90 ft.; brick, concrete and marble; tar and gravel roof; concrete fireproofing; cement and tile floors; steam heat; electric fixtures; plumbing; cost \$10,000; has contract. (See Machinery Wanted—Automobile Repair Equipment, etc.)

Ky., Madisonville—Ross Garage Co., lately incorrectly reported incptd.; the company incorporating was Ross Grocery Co.

La., Jennings—Garage.—D. D. Daggett will construct 61x142-ft. brick and concrete garage; cost \$8000; asphalt roof; cement floor; electric lighting; plans by I. C. Carter, Lake Charles, La.

Mo., Caruthersville—Automobiles.—Caruthersville Plumbing & Automobile Co., capital \$6000, incptd. by N. M. Helm, John F. Ray and E. S. Berry.

N. C., Charlotte—Automobiles.—A. A. Knee, 211 W. 4th St., will occupy, as Ford sales and service station, a 40x150-ft. \$20,000 building, to be erected by E. Latta, Charlotte, after plans by Wm. H. Peepe, Charlotte; company will also deal in accessories.

Okl., Muskogee—Automobiles.—Anderson Automobile Co., capital \$5000, incptd. by A. T. Woods, A. B. Madden and O. A. Great-house.

Okl., Oklahoma City—Garage.—J. L. Daniels will erect garage; 2 stories; cost \$15,000.

Okl., Oklahoma City—Garage.—W. T. Hall will erect garage; brick; cost \$5000.

Okl., Waurika—Garage.—A. E. Landon has plans for garage.

S. C., Darlington—Garage.—Vernon & Crosswell, capital \$5000, incptd. by W. E. Vernon and J. E. Crosswell.

S. C., Rock Hill—Automobiles.—Anderson Motor Co. will build assembling plant 400x100 ft. (Lately noted organized with \$1,500, 000 capital, to increase annual capacity from 2000 to 3000 motor cars, etc.)

Tenn., Memphis—Automobile Assembling Plant.—White Automobile Co. of Cleveland, Ohio, will build assembling plant; cost \$50,000.

Tenn., Memphis—Automobiles.—Southern Motor Co., 631 Monroe Ave., has plans by Harker & Cairns, Memphis, for lately-noted 75x200-ft. 1 and 2-story building for automobile salesroom and shop; has opened bids. (See Machinery Wanted—Machine Shop Equipment.)

Tex., Abilene—Service Station, etc.—Metzgar & Hoppe building contract has been let to Thos. Velch, Anson, Tex.; plans by David S. Castle, Abilene; cost \$10,000; 50x130-ft. structure; brick; cement floor; metal ceiling; steel sash windows; install equipment for Willard storage battery service station, garage and automobile supplies. (See Machinery Wanted—Automobile Supplies, etc.)

Tex., Dallas—Automobile Building.—J. E. Pierce of Austin, Tex., will erect building for branch automobile plant; 3 stories; 3 street frontages, two of 50 and one of 132 ft.; 3 stories and basement; cost \$50,000; plans by Marion Fooshee and Hal B. Thompson, Dallas.

Tex., Fort Worth—Automobiles.—Emerson Co. of Texas, capital \$50,000, incptd.; secured assembling plant with floor space of 36,000 sq. ft.; J. P. Price, Pres.; Marshall Spoonits, V.-P.; O. B. McCoy, Secy.-Treas.

Tex., Longview—Garage.—C. S. and S. I. Bazzell of Tyler let contract to erect garage; 100x100 ft.; fireproof; brick.

Va., Lewistown—Automobiles.—Garner, Marsh & Parsons, capital \$15,000, incptd.; A. B. Garner, Pres.; T. W. Marsh, Secy.

Va., Petersburg—Automobiles.—Motor Distributors, capital \$50,000, incptd.; Wm. T. Clure, Pres.; G. B. Stryker, Secy.-Treas.

W. Va., Warwood—Garage.—Warwood Motor Co. has plans for garage; fireproof; 60x100 ft.; accommodate 30 machines, with stall and locker for each; repair department.

RAILWAY SHOPS, TERMINALS, ROUNDOUSES, ETC.

Tex., Sweetwater—Roby & Northern Ry., L. C. Eastland, Gen. Mgr., Hillsboro, Tex., is reported as planning erection of round-house, machine shop and terminals.

ROAD AND STREET WORK

Ark., Fort Smith—City, Henry Kuper, Jr., Acting Mayor, let contract to Cleveland Trinidad Paving Co., Cleveland, Ohio, at \$12,499, to construct paving, Dist. No. 12; 9553 sq. yds. asphaltic concrete on 4-in. concrete base, and 8797 lin. ft. 6-in. concrete curbing.

Fla., Bradentown.—Manatee County Commissioners, Robt. H. Roesch, Clerk, let contract to Curry & Turner, Bradentown, to construct 29 mi. hard-surfaced roads, Englewood Special Road and Bridge Dist.; let contract for bridges to Lutten Bridge Co., York, Pa. (Bids noted and work described in December.)

Fla., Key West.—City will pave sections of Eaton, Southhead and Simonton Sts.; native rock, marl and sand, with top dressing of oil and sand. Address The Mayor.

Ky., Barbourville.—Knox County's previously-noted road construction work is reported to Manufacturers Record as follows: About 50 mi. involved; grading—well crowned, and water-bound macadam; all grading already contracted; Contrs. include T. J. Vermillion & Sons, Mason Construction Co., and Hamper Mitchell & Co., all of Barbourville, and S. T. Jackson, Flat Lick, Ky.; \$200,000 available; C. B. Parrett, Engr., Barbourville.

Ky., Irvine.—Estill County, J. E. Alexander, County Clerk, will construct lately-noted road; 2½ mi. macadam; open bids Feb. 12; Engr., H. D. Forbes, Richmond, Ky. (See Machinery Wanted—Road Construction.)

Ky., Jenkins.—Consolidation Coal Co. has no final plans for street improvements; L. B. Abbott, Ch. Engr. Elkhorn Division, advises Manufacturers Record: Work we expect to do this spring: 4400 sq. yds. one-course concrete pavements, 4000 lin. ft. curb and gutter, 9000 sq. ft. cement sidewalks; not prepared to state estimated cost; have not engaged engineer. (Lately noted.)

Md., Baltimore.—Maryland State Roads Com., Garrett Bldg., will construct 3 sections of State Highway and 1 bridge; Contract No. Ce-22, Cecil County, Calvert, Md., to Sylmar, Pa., 1.33 mi., concrete; No. K-9, Kent County, near Fairlee toward Rock Hall, 3.87 mi., concrete; No. D-18, Dorchester County, through East New Market, .73 mi., concrete; No. 0266, Kent and Cecil Counties, bridge over Sassafras River between Georgetown and Fredericktown, 750 ft. long, timber piles cut at water line and capped with concrete piers and concrete superstructure, foundation piers for draw span, etc.; bids until Jan. 30. (See Machinery Wanted—Road Construction.)

Miss. Hattiesburg.—Forrest County, Beats 1 and 2, votes Jan. 30 on \$100,000 bonds to complete link of Natchez-Mobile-Jefferson Davis Highways within county. Address County Supvrs. (Lately noted.)

Miss., Wiggins.—Stone County Supervisors, W. A. Bond, Chrmn., will construct by County's equipment the 18 mi. highway noted in Dec.; cement gravel surface on graded base; \$40,000 to \$50,000 available; survey not yet completed; H. W. Bell, Laurel, Miss., Engr.

N. C., Monroe.—City will pave Main and Franklin Sts. with asphalt. Address The Mayor.

N. C., Mooresville.—City will pave streets. Address The Mayor.

N. C., Spring Hope.—City contemplates

street improvements. Address The Mayor. (See Water-works.)

Okl., Arapaho.—Custer County deferred indefinitely the vote on \$800,000 bonds for road construction. (Noted in Dec.)

Okl., Tulsa.—City let contract Parker-Washington Co. of St. Louis, Mo., at \$113,636.73 to pave 44 blocks of pavement with asphalt.

S. C., Columbia.—City contemplates voting on \$200,000 bonds to improve streets, \$20,000 to improve parks, \$15,000 to erect abattoir and \$25,000 to build city market; T. Keith Legare, City Engr.

S. C., Chester.—City contemplates \$31,000 bond issue to improve streets. Address The Mayor.

S. C., Darlington.—City votes Feb. 15 on \$50,000 bonds to pave streets in business section. E. R. Cox, Mayor. (Lately noted.)

S. C., Sumter.—City voted \$75,000 bonds for paving. Address The Mayor.

Tenn., Manchester.—Coffee County votes March 10 on \$250,000 bonds to grade, macadamize and gravel roads. Address County Commrs.

Tenn., Murfreesboro.—City will improve Main and College Sts.; 22,900 sq. yds. asphaltic concrete pavement, 11,750 lin. ft. 30-in. combined curb and gutter, 1600 sq. ft. concrete gutter, 3500 sq. ft. concrete sidewalk, etc.; City Commrs. receive bids until Jan. 19; C. B. Howard & Co., Engrs., 150 Fourth Ave., N., Nashville; G. B. Giltner, Mayor. (See Machinery Wanted—Paving.)

Tex., Amarillo.—Potter County Commrs. are reported contemplating vote on \$150,000 bonds to construct roads.

Tex., Beeville.—City will pave streets. C. E. Williamson, Mayor.

Tex., Corsicana.—Navarro County Commissioners let contract McElwath & Rogers of Atlanta, Tex., to construct 45 mi. gravel roads at Frost; Chas. Chappell of Kaufman, Tex., is Ch. Engr.; Robt. Ross, Engr. in charge.

Tex., Clarksville.—City will improve Walnut, Main, Broadway, Depot and Donoho Sts. and College Ave., in city limits, South and West Sts. in Railroad Addition and First St. in Murrie Addition; paving to be concrete or asphaltic concrete on crushed stone base; concrete curbs and combined concrete curbs and gutters; bids until Jan. 22; John R. Webb, City Clk. (See Machinery Wanted—Paving.)

Tex., Houston.—City let contract Horton & Horton of Houston at \$6750 to pave Washington Ave., from tracks of Galveston, Harrisburg & San Antonio R. R. to old city limits, about 2 blocks, with Uvalde rock asphalt.

Tex., Houston.—City will construct standard sidewalks on Main St. at Herman Park; bids until Jan. 19; Ben Campbell, Mayor. (See Machinery Wanted—Paving.)

Tex., Houston.—City will pave Harrisburg Rd., from end of present pavement to Yoakum St., with asphaltic concrete, bitulithic, vertical fiber brick, asphalt filler or Uvalde rock asphalt; bids until Jan. 22; Ben Campbell, Mayor. (See Machinery Wanted—Paving.)

Tex., Huntsville.—Walker County, Goshen Precinct, voted bonds to construct roads. Address County Commrs.

Tex., Mount Vernon.—Franklin County Commrs. let contracts to construct road (to be link in proposed Jefferson Highway) to W. Lawson and Ben Johnson of Annona, Tex.; J. B. Wills of Greenville, Tex., and Cade Carson of Mount Vernon, Tex.

Tex., San Angelo.—City voted \$25,000 bonds to relay wood block paving. Address The Mayor. (Lately noted.)

Tex., San Marcos.—Hays County, Road Dist. No. 3 (including Buda and Neiderwald), voted \$75,000 bonds to construct roads. Address County Commrs. (Noted in Dec.)

Tex., Taylor.—City contemplates street paving. Address The Mayor.

Va., Newport News.—City votes Feb. 17 on \$50,000 bonds to improve streets. Address The Mayor.

Va., Petersburg.—City will issue \$250,000 bonds to improve streets and sidewalks and complete sewer system; \$31,150 to be expended to improve roadway of Wythe St., from Jefferson to Main, and Main St., from Wythe to Blandford Cemetery. N. T. Patterson, Chrmn. Finance Committee. (Lately noted.)

W. Va., Charleston.—Kanawha County, Loudon Dist., will construct 3.2 mi. hard-surfaced road; receive bids Feb. 14; P. J. Walsh, Engr. and Supt., Charleston. (See Machinery Wanted—Road Construction.)

W. Va., Huntington.—City will grade, curb and pave Winters Rd., from Staunton to Merrell Aves., and Eleventh St., from 11th to 12th Aves.; also 10-in. vitrified tile sewer; City Commrs. receive bids until Jan. 29; O. H. Wells, Commr. of Streets, Sewers, etc.; A. B. Maupin, City Engr. (See Machinery Wanted—Paving, etc.)

W. Va., Keyser.—Mineral County, Frankfort Dist., votes Feb. 10 on \$140,000 bonds to improve roads. Address County Commrs.

SEWER CONSTRUCTION

N. C., Spring Hope.—City contemplates sewer construction. Address The Mayor. (See Water-works.)

Okl., Tulsa.—City let contract Carl Pleasant of Tulsa at \$14,000 to construct Cat Creek sewer.

Tenn., Jackson.—City is reported to vote on \$40,000 bonds to extend sewer system. Address The Mayor.

Tex., Athens.—City will have plans and specifications for sewer system and treatment plant prepared by A. B. Axtell, City Engr.

Tex., Cameron.—City, S. Hefley, Mayor, is having plans for disposal plant prepared by Bartholow-Willits Engineering Co., Galveston.

Tex., Mineral Wells.—City let contract to Whitley Bros., Mineral Wells, at \$16,770 to install sewage-disposal plant; Wm. C. McClendon, City Engr. (Bids noted in Dec.)

Va., Petersburg.—City will issue \$250,000 bonds to complete sewer system and improve streets and sidewalks. N. T. Patterson, Chrmn. Finance Committee. (Lately noted.)

TELEPHONE SYSTEMS

Ky., Eubank.—Eubank Telephone Co., Incptd. by T. W. McLaughlin, I. E. Paynes and Green McMullin.

Ky., Ledbetter.—Ledbetter Home Telephone Co., Incptd. by W. L. Bellamy, E. R. Goodloe and J. H. Bruster.

Tex., Brady.—West Texas Telephone Co., F. W. Greber, Engr., Brownwood, Tex., will reconstruct exchange; cost \$15,000; work by the company.

Tex., Brownwood.—West Texas Telephone Co., F. W. Greber, Engr., lately noted increasing capital stock to \$400,000, advises Manufacturers Record: Will reconstruct exchange at Brady at cost of \$15,000; work by our construction department; construct 37 mi. 20-ft. creosoted pine pole line; number of contracts let.

W. Va., Charleston.—Chesapeake & Potomac Telephone Co. of West Virginia chartered to merge Consolidated Telephone Co., which has been operating in Panhandle and Northern West Virginia, West Virginia Central District Telephone Co. and Chesapeake & Potomac Telephone Co.

TEXTILE MILLS

Ala., Gadsden.—Hosiery.—Davis & Allcott Co., organized with \$50,000 capital; W. B. Davis, Pres.; Chas. Allcott, V.P.; Robt. E. Davis, Secy.; install 100 knitting machines, electric-power drive, etc., for daily capacity 1000 doz. prs. hosiery; has purchased equipment. (W. B. Davis & Son, Chattanooga, Tenn., lately noted to establish hosiery mill.)

Ga., Griffin.—Hosiery.—Griffin Hosiery Mills will install additional equipment, increasing from 25 to 60 machines.

Ky., Louisville.—Hosiery, etc.—Falls City Mills Co., capital \$50,000, Incptd. by Simon Shapinsky, Roy A. Burd, L. D. Royd and others.

Ky., Louisville.—Tire Fabrics.—Ten Broeck Tyre Co. will install cotton mill equipment in tire plant at 26th and Courtney Sts.; spin yarn and weave cotton fabrics.

North Carolina.—Knit Goods.—Geo. D. Dobbins, South Bethlehem, Pa., may build knitting mill; advises Manufacturers Record: Nothing done up to present time.

N. C., Avondale.—Cotton Cloth.—Haynes Mills has final plans for buildings and machinery; 2-story 260x100-ft. structure for carding and spinning; 1-story 320x100-ft. building for weaving; brick mill construction; install 20,000 spindles, 350 looms, electric power drive, etc.; Geo. E. Ladshaw, Archt.-Engr., Spartanburg, S. C. (Previously noted; capitalization \$300,000.)

N. C., Hickory.—Cotton Yarn.—Hickory Spinning Co., chartered with \$300,000 capital by Geo. N. Hutton, A. M. Kester, H. J. Holbrook and others; build cotton yarn mill.

N. C., High Point.—Hosiery Yarns.—Highland Cotton Mills let contracts for 5000 spindles, etc., noted in Nov. as to be added; will double capital and expects to build No.

2 mill for 12,000 spindles and accompanying machinery to spin fine combed yarn.

N. C., Huntersville.—Cotton Products.—Anchor Mills will not build any addition. (Dec. report was erroneous.)

N. C., Newton.—Hosiery.—Ridgeview Hosiery Mill will improve plant; install additional machinery, erect employees' dwellings, etc.

S. C., Greenville.—Jute Bagging.—Greenville Bagging Co., East Court St., Incptd., capital \$50,000; Benj. Margolius, Pres.; D. L. Margolius, V.P.; Horace A. Tansill, Secy., Treas. and Mgr.; will open building proposals; install machinery to manufacture jute bagging for covering cotton.

Tenn., Chattanooga.—Hosiery.—Tennessee Mills, capital \$100,000, Incptd. by J. Walter Cummings, Clyde Keene, Clifford Fryar and others; will manufacture children's hosiery.

Tenn., Knoxville.—Cotton Yarn.—Cherokee Spinning Co., M. B. Melendy, Pres., will build 1-story 207x132-ft. brick construction mill with steel sash; J. E. Sirrine, Archt.-Engr., Greenville, S. C.; install 5000 spindles with accompanying machinery; has purchased equipment. (Lately noted organized, capital stock \$150,000, etc.)

WATER-WORKS

Ark., Rogers.—Edgar Masoner of Bentonville, Ark., and W. A. Wilson of Springdale, Ark., submitted proposition to install \$100,000 water and electric-light plant.

Ala., Talladega.—City will vote on \$200,000 bonds to construct water-works. D. M. Osborne, Supt.

Ga., Norman Park.—Norman Institute will rebuild water and light plant lately noted burned. T. E. Howell, Supt.

Ky., Jackson.—Jackson Water-works Co. plans improvements to water-works; cost \$50,000.

Ky., Sellersville.—J. M. Patrick and others are interested in construction of water-works; cost \$26,000.

N. C., Greenville.—City engaged Gilbert C. White, Durham and Charlotte, to prepare plans and supervise construction of improvements to water-works and electric-light plant. Lately noted to vote on \$52,000 bonds. (See Electric Plants.)

N. C., Spring Hope.—City contemplates vote on \$50,000 bonds for water and sewer construction, street and electric-light improvements. Address The Mayor.

Okl., Checotah.—City votes Jan. 20 on \$125,000 bonds to improve water-works. J. E. Harding, Supt.

Okl., Hugo.—City contemplates building settling basin for water-works. Address The Mayor.

Tenn., Springfield.—City voted \$33,000 bonds to install filtration system. Address The Mayor. (Lately noted.)

Tex., Pecos.—H. LaSalle of El Paso has municipal franchise to pipe water to Pecos; 14-mi. pipe line; construct reservoir at wells; purchased municipal water-works and will extend system to all parts of residential section.

Tex., Wilmer.—City will vote on \$15,000 bonds for water-works. Address The Mayor.

WOODWORKING PLANTS

Ark., Little Rock.—Heading.—Alfred Heading Co., capital \$75,000, Incptd. by W. F. Alfrey, W. L. Priest, F. W. Hurley and others.

Ky., Louisville.—Boxes.—Mengel Box Co. will erect iron-clad factory building; cost \$10,000.

Ky., Owensboro.—Chairs.—Murphy Chair Co. of Detroit, Mich., purchased factory building; will equip for manufacture of chairs.

Md., Brooklyn.—Millwork.—John H. Gels & Co. will erect frame building, 70x100 ft. and 32 ft. high; install milling machinery; electric operation; building partly for warehouse.

Tenn., Dickson.—Staves, etc.—F. W. Crow Stave & Lumber Co., capital \$10,000, Incptd. by F. H. Crow, A. B. Crow, Pitt Senslee and others.

Tenn., Kingsport.—Veneer.—White Oak Veneer & Lumber Co., H. T. Spencer, Pres., will build plant.

Tenn., Piney Flats.—Furniture.—Wolfe Bros. & Co., J. B. Wolfe, Pres., will rebuild lately-noted structure of brick and concrete; 50x75 ft.; 2 stories; for office, finishing and store rooms; construction by the company. (See Machinery Wanted—Elevator; Roofing; Structural Iron, etc.)

S. C., Ehrhardt.—Heading.—Ehrhardt Heading Mill Co., capital \$240, Incptd. by A. B.

Coggins, E. B. Hughes and Henry Ehrhardt. W. Va., Welch.—Flooring.—Ritter Flooring Co., capital \$1000, Incptd. by C. B. Weakley, J. W. Mayhew, Landon C. Bell and others, all of Columbus, Ohio.

FIRE DAMAGE

Ala., Birmingham.—Joseph H. Loveman's residence, loss \$12,000; R. A. Terrell's residence, loss \$15,000 to \$18,000.

Ala., Collinsville.—Collinsville High School; loss \$10,000. Address School Trustees.

Ala., Mobile.—R. W. Jones' residence, owned by John Hakanson.

Fla., Bagdad.—Bagdad Land & Lumber Co.'s plant damaged; loss \$20,000.

Fla., Live Oak.—Barton Investment Co.'s building, occupied by N. D. Sampson and Charles Joseph.

Fla., Tampa.—Swann Terminal Co.'s warehouse owned by Interstate Investment Co., James T. Swann, V.P.; loss on building, \$8000.

Ga., Stillmore.—E. L. Shadrack Lumber Co.'s planing mill; equipment owned by E. A. Edenfield; loss \$10,000.

Ky., Frankfort.—Cell House A of State Reformatory; A. O. Stanley, Governor.

Ky., Hopkinsville.—Thomas J. McReynolds' residence; loss \$5000 to \$6000.

Ky., Owensboro.—Dr. J. W. Strother's residence; loss \$5500.

La., Chalmette.—Warehouses I, J and K at Port Chalmette, owned by New Orleans Terminal Co., Charles H. O'Rourke, Pres.; J and K occupied by American Can Co. and American Molasses & Meal Co.; loss \$100,000; E. A. Kelly, Gen. Mgr.

La., Donaldsonville.—S. Prejean's Half-Way Plantation's feed mill; loss \$3000.

Md., Centerville.—Phillip Golt's farm residence at Cloverdale; loss \$3500.

Md., Govans.—Harry Michelman's residence; loss \$3700.

Miss., Bellevue, P. O. at Vicksburg.—A. L. Blanks' sawmill.

Miss., Eupora.—Residences of C. Q. Watts, J. E. Thomas and M. W. Sharp; loss \$7000.

Miss., Pass Christian.—Mexican Gulf Hotel; loss \$100,000.

Miss., Tishomingo.—Stores of D. W. Paden, Olen Bicker, J. H. Bickerstaff, W. C. Waldrup, W. C. Hundley & Co., and Hafford, Fairless & Co.; postoffice building; total loss, \$25,000.

Mo., Kansas City.—Willis Wood Theater, owned by Willis Wood estate and leased by E. E. Russell and Nugent T. Flynn, both of New York; loss \$40,000 to \$50,000; Joseph H. Gilday, Mgr.

N. C., Currie.—W. C. Keith's residence at Colly Mills near Currie.

N. C., Warsaw.—Leslie Best's residence; loss \$3000.

Okl., Oklahoma City.—Exposition building on State Fair Grounds; loss \$23,000. Address State Fair Assn.

S. C., Hartsville.—Segars Mill's grist mill, ginnery, sawmill and seedhouse at water-power plant, near Hartsville; loss \$4000.

S. C., McClellanville.—McClellanville High School. Address School Trustees.

S. C., York.—McNeel Bldg., owned by Mrs.

S. M. McNeel and occupied by Loan and Savings Bank, York Hardware Co., postoffice, W. E. Ferguson Grocery Co. and others; loss \$30,000.

Tenn., Alamo.—Dr. H. W. Cooke's residence.

Tenn., Chattanooga.—Arthur Leighton's 5 dwellings; loss \$5500.

Tenn., Kingsport.—Carolina, Clinchfield & Ohio Ry.'s freight depot; loss \$12,000; O. K. Morgan, Office Engr., Johnson City, Tenn.

Tenn., Memphis.—E. D. Thompson's residence; loss \$3000.

Tenn., Nashville.—Louis Lebeck's residence; loss \$30,000.

Tenn., Union City.—Union City Mfg. Co.'s oiling and dressing room; loss \$3000.

Tex., Cleburne.—G. W. Holcomb's residence, occupied by V. S. Milner.

Tex., Clermont.—Griffin Bros.' store.

Tex., Commerce.—Rutland-Maloney Co.'s building; Merchants' National Bank Bldg.; J. O. Cobb & Co.'s building; loss \$75,000.

Tex., Dallas.—Fannin Public School; loss \$25,000. Address The Mayor.

Tex., Dallas.—Henry C. Coke's building at 1100-02 Commerce St., occupied by A. Zeese Engraving Co., Barnhardt & Spindler, and others.

Tex., Fort Worth.—Carroll residence on Southwestern Baptist Theological Seminary campus, occupied by P. F. Evans and Mr. Hastings; loss \$18,000.

Tex., Houston.—Otto Sens' country home, near Strang, 21 mi. from Houston; loss \$12,000.

Tex., Lufkin.—Brown Kerr's residence, 2 mi. from Lufkin.

Tex., Oak Cliff (Sta. A. Dallas).—Residences of J. M. Grasty, E. R. Deforest, Rev. L. P. Smith, A. C. Cason, R. N. Kidd, Mrs. J. L. Lane, G. E. Mook; Henenberg Apartments and other buildings; loss \$10,000.

Tex., Pittsburg.—G. A. Hess' residence; loss \$6000.

Tex., Refugio.—C. H. Heard's residence; loss \$20,000.

Tex., Teague.—A. Zeannon's residence; loss \$4000.

Va., Bedford City.—O. B. Smith's warehouse occupied by Clark & Co.; loss \$35,000 to \$40,000.

Va., Petersburg.—P. W. Smith's store at 718 High St.; loss \$10,000 to \$12,000.

Va., Roanoke.—Belmont Methodist Episcopal Church South, loss \$25,000, Rev. J. A. Balthis, pastor; First Christian Church, loss \$10,000. Address The Pastor.

Va., Woodstock.—Geo. Readle's Massanutten Garage; building owned by G. W. Koontz.

W. Va., Charleston.—Davidson Bldg.; cost \$8000.

W. Va., Berkeley Springs.—Tannery building, owned by Pontche & Bachtel and occupied by R. D. Fisher & Co., Post Printing Co., R. H. Ambrose, W. E. D. Welch, Eureka Athletic Assn. and others; loss \$25,000.

W. Va., Farmington.—Majestic Theater Bldg., loss \$5000; A. Marcus' store, loss \$5000; John Bock's warehouse, loss \$4000; John Vargo's store, loss \$6000; Bank of Farmington, loss \$5000.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ark., Little Rock.—Johnson & Dickerson will erect apartment-house; cost about \$8000; 2 stories; brick.

Ark., Texarkana.—Conway Bros. have plans by Witt, Siebert & Co. and Stuart Moore, Texarkana, for 6 apartment-houses at 5th and Beech, and 6th and Hazel Sts.; brick and concrete; tile roof; hardwood floors; natural gas light; cost \$60,000; sidewalks, \$1000; construction by owners, who may be addressed. (Lately noted.)

D. C., Washington.—James L. Karrick has plans by Gregg & Leisenring, 1320 New York Ave. N. W., Washington, for apartment-house at 1817 G St. N. W.; 7 stories; front light-colored brick; granite base; limestone or terra-cotta trimmings; metal marquise and balconies; entrance vestibule, lobby, reception-rooms and lobbies finished with walls and piers faced with marble; marble tile floors; ornamental plaster ceilings; electric elevators; 2 stairways; fireproof construction; cost \$150,000.

D. C., Washington.—W. G. Guss, 2901 Fourteenth St. N. W., will erect 4-story brick apartment-house at Wisconsin Ave. and Hall Pl.; cost \$45,000.

Fla., Miami.—Carl Homer will erect 3-story concrete business building.

Fla., Miami.—T. J. Nolan will erect store and department building; 3 stories; site 50x100 ft.; cost \$20,000.

Fla., Winter Park.—C. H. Morse will erect building for apartment-house, etc. (See Theaters.)

Ga., Atlanta.—Lodowick J. Hill, Jr., Atlanta National Bank Bldg., is preparing plans for fireproof apartment-house.

Ga., Atlanta.—H. W. Nichols & Son will erect apartment-house in Ansley Park, also 18-suite apartment-house on Peachtree St.; details not determined.

Md., Baltimore.—Woodrow Realty Co. has plans by Stanislaus Russell, 2900 Clifton Ave., Baltimore, for 4 apartment-houses on northwest side Brooks Lane, southwest of

Linden Ave.; 25x114 ft.; ornamental brick; limestone trim; cost \$30,000.

Mo., Kansas City.—Harry J. Sophian is reported to erect Georgian Court Apartment; Albert C. Wiser, Supervising Archt.

Mo., Kansas City.—McCanles Realty Co. will erect four 6-apartment flats, 2908-14 Lockridge St. and 2907-13 E. 27th St.; cost \$60,000.

Mo., Kansas City.—A. E. Swearingen will erect 2-story stucco flat at 3210 E. Seventh St.; cost \$3000.

Mo., Kansas City.—C. O. Jones will erect business and apartment building. (See Stores.)

Mo., Kansas City.—R. L. Deshazer will erect 3-story 6-apartment stucco flat at 2104-06 E. 33d St.; cost \$14,000.

Mo., St. Louis.—University Investment Co. will erect building for apartments, etc. (See Stores.)

N. C., Charlotte.—D. M. Abernethy, 1398 E. Fourth St., has plans by F. L. Bonfoey, 212 Chamber of Commerce Bldg., Charlotte, for apartment-house on West Ave.; 44x100 ft.; frame and brick veneer; slate roof; wood floors; hot-water heat; electric lights; cost \$10,000. Address owner.

Okla., Sapulpa.—Monning Bros. will erect store and apartment-house. (See Stores.)

Tex., Dallas.—J. A. Smith, 208 W. Ninth St., will erect apartment-house at Lancaster and Sabine Sts.; brick and tile.

Tex., Dallas.—M. Lewin, 1804 Gould St., will erect duplex apartment-house; Roderick Hardware Co. will purchase materials.

Tex., Dallas.—R. H. Clem, Clem Lumber Co., is having plans prepared by H. A. Overbeck, Juniata Bldg., Dallas, for four 5-room apartment-houses on Worth St.; cost about \$13,000.

Tex., Dallas.—W. C. Martin has plans by H. A. Overbeck, Juniata Bldg., Dallas, for 20-room apartment-house; electric fixtures; cost about \$9500.

Tex., Houston.—F. B. King will erect 3-story apartment-house; cost \$11,558.

ASSOCIATION AND FRATERNAL

Ark., Magazine.—Woodmen of the World will erect business and lodge building.

D. C., Washington.—I. O. O. F., E. W. Bradford, Chrmn. Building Com., has plans by W. S. Plager, 2015 Kearney St. N. E., Washington, for building on Seventh St. to replace present structure; cost \$250,000.

Fla., Miami.—A. F. & A. M. plan to erect Masonic Temple.

Ga., Augusta.—A. F. & A. M. plan to erect 5-story building at Dyer Bldg. site to contain stores, offices and clubrooms; reported cost \$200,000.

Ga., Bainbridge.—B. P. O. E. will erect building.

Md., Baltimore.—Colored Y. M. C. A., Samuel S. Booker, Secy., 1619 Druid Hill Ave., will erect building at Dolphin and McCulloh Sts.

Okla., Bartlesville.—A. F. & A. M. will erect Masonic Temple; cost \$100,000. Address John McMullen.

Okla., Henryetta.—B. P. O. E. will erect lodge building.

Okla., Henryetta.—A. F. & A. M. will erect lodge building.

S. C., Spartanburg.—Masonic Temple Corporation, N. F. Walker, Prest., is reported to erect \$100,000 structure; 6 stories.

Tex., Blossom.—A. F. & A. M. will erect lodge building.

BANK AND OFFICE

Ark., Hot Springs.—Security Bank plans to erect 10-story bank and office building.

Ga., Augusta.—A. F. & A. M. plan to erect building to contain offices, etc. (See Association and Fraternal.)

Ga., Lagrange.—Lagrange National Bank plans to erect building.

Ky., Chenoa.—Log Mountain Coal Co., Harrison, Ky., will erect commissary and office building. (See Stores.)

La., Alexandria.—First National Bank will expend \$20,000 to \$30,000 to remodel building; probably plate-glass front; vaults, etc.; marble and bronze fixtures.

La., Hornbeck.—Bank of Hornbeck will erect building.

La., New Orleans.—City Bank & Trust Co. is reported to remodel structure.

La., Shreveport.—Merchants' Building Co., E. A. Frost, Prest., receives bids Jan. 29 to erect bank and office building; 40x150 ft.; reinforced concrete; 12 stories; Sanguinet &

Staats, Fort Worth, Tex., and E. F. Nield, Shreveport, Archts. (Lately noted.)

Miss., Corinth.—Corinth Bank & Trust Co. purchased building and will remodel; plans not yet prepared.

Mo., Boonville.—Boonville National Bank will expend \$7500 to \$10,000 to remodel and install new fixtures in bank. Address Building Com. (See Machinery Wanted—Bank Fixtures.)

N. C., Asheville.—Morris Meyers and Robert G. Fortune will erect 7-story office building; stores on first floor; cost \$50,000 to \$75,000.

N. C., Monroe.—Savings Loan & Trust Co., R. B. Redwine, Prest., will erect 3-story white pressed brick building.

N. C., Rocky Mount.—Owners Soden Building are reported to erect \$20,000 structure.

N. C., Rocky Mount.—Farmers & Merchants Bank will erect \$15,000 building.

N. C., Rocky Mount.—National Bank of Rocky Mount will erect 6-story structure; estimated cost \$125,000.

Okla., Tulsa.—Osage & Oklahoma Gas Co., G. T. Braden, Prest., will erect 2 or 3-story building.

Okla., Tulsa.—First National Bank will erect bank and office building; 6 stories; electric lights; steam heat; elevator.

S. C., Greenville.—First National Bank and Piedmont Savings & Trust Co., F. F. Beattie, Prest., have plans by Silas Trowbridge, Atlanta, for bank building; 1 story with height of 2 stories.

S. C., York.—Mrs. S. M. McNeel is having plans prepared for building to replace burned structure. (See Stores.)

Tex., Hallettsville.—First State Bank of Hallettsville receives bids through T. Y. Hill, Cashier, until Jan. 29 to erect 2-story and basement brick and stone bank building; plans and specifications at office First State Bank and Emmet J. Jackson, Archt., Moore Bldg., San Antonio.

Tex., Paris.—First State Bank will erect bank building; 2 stories; tile floors; cost \$20,000; other details not determined; Roy E. Lane & Co., Archts., 205 First National Bank Bldg., Paris; construction begins in 30 days. (Lately noted.)

Tex., Paris.—American National Bank has plans by Roy E. Lane & Co., 205 First National Bank, Paris, for bank building; 35x104 ft.; concrete; brick bearing wall; concrete roof with Barrett specification cover; concrete, marble, tile, oak and maple floors; gravity steam heat; cost \$25,000; contract let Jan. 16. Address architects. (See Machinery Wanted—Building Materials; Art Glass Ceiling; Grilles, etc.; Fireproof Windows and Doors; Marble; Ash Lift.)

W. Va., Huntington.—Union Savings Bank & Trust Co., Geo. S. Wallace, Prest., Fourth Ave. and Ninth St., plans to erect building; details not determined.

CHURCHES

Ala., Anniston.—Parker Memorial Church, Rev. Leon M. Latimer, pastor, receives bids until Jan. 20 for improvements to include re-decorating interior, rearranging Sunday-school rooms, increasing seating capacity, etc.; cost about \$15,000; plans at office Lockwood Poundstone, Archts., Anniston. (Lately noted.)

Ala., Coden.—St. Michael's Church will erect \$3000 building; 2000 ft. floor space; stained-glass windows with life-size paintings. Address The Pastor.

Ark., Arkadelphia.—Hillcrest Methodist Church, Rev. Andrew Christie, Pastor, will erect building.

Ark., Earle.—Baptist Church will erect building. Address The Pastor.

Ark., Fort Smith.—Baptist Church of South Fort Smith, will erect \$3000 brick building. Address The Pastor.

Ark., Hector.—Cumberland Presbyterian Church will erect building. Address The Pastor.

Ark., Conway.—First Christian Church, Rev. J. C. Dawson, Pastor, plans to erect brick or concrete building; seating capacity 1000; cost \$15,000.

Ark., Keo.—Methodist Church will erect parsonage; frame; bungalow style. Address The Pastor.

Fla., Key West.—Church of St. Mary has plans by Fort & Parslow, Tampa, for parsonage; 30x53 ft.; 2 stories; concrete; asbestos roof; reinforced concrete floors; city electric lights; cost \$4500 to \$5000; bids opened in about 30 days.

Ga., Vidette.—Methodist Church has plans

by Thos. M. Campbell, Johnson Bldg., Augusta, for building; frame and brick; day labor.

Ky., Lexington.—Epworth Church will erect building; cost \$20,000; Frank L. Smith, Archt., Lexington.

Ky., Pineville.—Baptist Church has plans by R. F. Graff & Sons, Knoxville, Tenn., for lately-noted building; 84x90 ft.; brick; stone trimmings; probably metal roof; steam heat; city electric lights; cost \$20,000; bids opened about Feb. 20 and construction begun about Apr. 1. Address J. A. McCord. (See Machinery Wanted—Heating Plant; Brick; Metal Shingles; Seating; Pipe Organ.)

La., Bogalusa.—Methodist Church will erect \$20,000 structure; brick; Mayor W. H. Sullivan, A. N. Dobb, Ward C. Flanders, Com.

La., New Orleans.—Sisters of the Sacred Heart School plan to erect Sisters' residence.

Md., Sudbrook Park.—Sudbrook Methodist Episcopal Church South, Reisterstown Rd. and Slade Ave., will erect parsonage. Address The Pastor.

Miss., Meridian.—Central Methodist Church will erect building. Address The Pastor.

Miss., Natchez.—St. Mary's Cathedral, Rev. John E. Gunn, Bishop, will erect building.

N. C., Greensboro.—Grace Methodist Protestant Church, Rev. R. M. Andrews, pastor, will soon let contract to erect building; seating capacity 350; cost \$5000.

Okla., Anadarko.—Methodist Church plans to erect building; cost \$20,000. Address The Pastor.

Okla., Bristow.—Methodist Episcopal Church, South, Rev. W. L. Broome, Pastor, will erect building; 55x72 ft.; red brick; slate roof; wood floors; cost \$10,000; bids opened Jan. 15; R. H. Hunt, Archt., Chattanooga, Tenn. Address R. M. House, Secy. Bldg. Co., Bristow. (Lately noted.)

Okla., Claremore.—Christian Church will erect building; cost \$20,000. Address The Pastor. (Lately noted to erect addition to building.)

Okla., Purcell.—Methodist Church will erect building; cost about \$30,000. Address The Pastor.

Tex., Dallas.—Episcopal Church of Incarnation will erect Alexander C. Garrett Memorial Hall for parish house; connect with present structure; reinforced concrete frame; hollow tile walls; red brick veneer front; 2 stories; contain auditorium, dining-room, kitchen and cooking equipment, classrooms and rector's office.

Tex., Marlin.—Presbyterian Church will erect \$20,000 structure. Address The Pastor.

Tex., Waco.—St. Paul's Parish plans to erect building; estimated cost \$100,000. Address The Rector.

Va., Norfolk.—Third Christian Church, Park Place, Rev. George D. Eastes, pastor, contemplates erecting building; Dr. J. W. Manning, B. L. Nichols, C. C. Cooper and others, Bldg. Com.

Va., Roanoke.—Belmont Methodist Church South, Rev. J. A. Baithis, Pastor, will erect church to replace structure noted burned at loss \$25,000.

CITY AND COUNTY

D. C., Washington.—Park.—Col. W. W. Harts, 1842 Mintwood Pl. N. W., Washington, prepared tentative plans for field house in East Potomac Park.

Fla., Miami.—Warehouse.—City authorized Isham Randolph & Co., Harbor Engrs., Chicago and Jacksonville, to prepare plans for dock warehouse; 58x250 ft.; probably concrete.

Ga., La Grange.—Jail.—Troup County Commissioners receive bids until Feb. 5 to erect addition to jail; plans and specifications at office of commissioners; W. T. Tuggle, Clerk.

Ga., Macon.—Library.—Directors of Washington Public Library, Eugene Anderson, Secy., receives plans until Feb. 7 to erect \$40,000 structure; about 75x50 ft.; steam or gas-steam heat; construction begins about June 15; equipment, etc., to cost \$10,000 additional.

La., New Orleans.—Market.—City is considering erecting market at Berlin and Magazine Sts. Address The Mayor.

Okla., Drumright.—City Hall.—City voted \$16,000 bonds to erect city hall. Address The Mayor.

Okla., Durant.—Jail.—County is having plans prepared for courthouse and jail. (See Courthouses.)

Okla., New Wilson.—City Hall.—City voted \$7000 bonds to erect city hall. Address The Mayor.

Okla., Woodward.—City Hall.—City lets contract about Feb. 15 to erect building for city hall, fire department, jail and auditorium; Hawk & Parr, Archts., Oklahoma City. Address Ira Eddleman, City Clerk. (Lately noted.)

S. C., Columbia.—Market.—City will issue \$25,000 bonds to erect city market. Address Mayor Griffith.

S. C., Greenwood.—Jail.—County is considering election on \$100,000 bonds to erect jail and pay outstanding debt. Address County Commrs.

S. C., Greenwood.—Jail.—Greenwood County Commrs. plan bond issue to erect addition to jail to cost \$25,000; 2 stories and basement; 40x50 ft.; 24 cells; provision for 12 additional cells; steam heat; convert present jail into jailer's residence; considering election on \$100,000 bonds.

Tex., Chillicothe.—City Hall.—City receives bids until Jan. 27 to erect city hall and fire station; brick; 25x100 ft.; 1 story; plans and specifications at office City Secy., or R. H. Stuckey, Archt., Chillicothe.

Tex., Fort Worth.—Jail.—County Commrs. commissioned Sanguinet & Staats, Fort Worth, to prepare plans for jail to cost \$150,000 to \$200,000. (Lately noted.)

Tex., Waco.—Jail.—F. L. Willenborg, County Commr., will soon call for bids to erect jail at County Home or for improvements to present structure.

COURTHOUSES

Okla., Durant.—County is having plans prepared by Jewel Hicks, Durant, for courthouse and jail for which \$100,000 bonds were voted. (Previously noted.)

DWELLINGS

Ala., Birmingham.—B. C. Morgan will erect residence; 2 stories and basement; 7'x35 ft.; frame; composition shingle roof; furnace heat; tile bath room; cost \$6500; W. T. Warren, Archt., Birmingham.

Ala., Birmingham.—Chapline Hodges has plans by W. T. Warren, Birmingham, for residence; 2 stories and basement; frame and brick; slate roof; furnace heat; tile porches and baths; electric fixtures; oak floors; cost \$11,000.

D. C., Washington.—H. R. Howenstein, 1314 F St., will erect 2-story brick dwellings at 4502-12 15th St. N. W. and 1501 Allison St.; tin roofs; hardwood floors; hot-water heat; electric lights; cost \$25,000; W. E. Horner, Archt., 61 New York Ave. N. E., Washington.

D. C., Washington.—R. I. Richardson will remodel store and dwelling. (See Stores.)

D. C., Washington.—S. Shapiro has plans by Hunter & Bell, Southern Bldg., Washington, for six 2-story brick dwellings at 301-11 V St. N. E.; cost \$18,000.

Fla., Jacksonville.—Mrs. E. E. Cheney will expend \$9000 to remodel four 1-story dwellings.

Ga., Atlanta.—Mrs. Dorothy B. Nicholas will erect 2-story brick-veneer residence at 18 Walker Ter.; day labor; cost \$5000.

Ga., Savannah.—William McKelvey will erect number of dwellings on 37th St.; cost \$2500 to \$4000 each.

Ga., Waynesboro.—E. V. Heath is having plans prepared by Thos. M. Campbell, Johnson Bldg., Augusta, for bungalow; frame and brick; composition roof; tile bathroom; hot-water heat; cost \$5000.

Ga., Winder.—M. J. Griffith of Griffith, Hill & Co., will erect \$10,000 residence.

Ky., Clinton.—O. Piper will erect residence to replace structure lately noted damaged by fire; frame; 1 story; 34x40 ft.

La., Jennings.—D. D. Dagget will erect residence.

La., New Orleans.—Charles Reimann, Prest. Reimann Manufacturing Co., will erect 2 bungalows in Metairie Court; cost \$3000 each.

Md., Baltimore.—P. C. Mueller Building Co., Gunther Bldg., has plans by Flournoy & Flournoy, 1517 H St. N. W., Washington, for fifteen 2½-story brick dwellings on Oakenshaw Pl., between University Parkway and Homewood Ter.; 24x36 ft.; cost \$72,000.

Md., Baltimore.—A. L. Cummings, 15 W. Mulberry St., will erect two 2-story and attic dwellings on Belle Ave., West Forest Park.

Md., Baltimore.—Maryland Building & Realty Co., Cumberland, Md., will erect 7 frame bungalows; 4 on Annapolis Blvd. and remainder on M Gee St.; cost \$25,000 to \$30,000.

Md., Baltimore.—E. J. Gallagher Realty Co., 919-20 Munsey Bldg., will erect 63 two-story brick dwellings; 9 on south side of 33d St. between Avon Ave. and Ellerslie St., 21x34 ft.; 11 on northwest corner 27th and Oak Sts., 14x14 ft.; 23 on north side 26th St., west of Oak St., 13x44 ft.; 8 on south side 33d St. between Frisby St. and Westerwald Ave., 21x34 ft.; 4 on north side Philadelphia Ave., west of Ellwood Ave., 14x44 ft.; 8 on south side 33d St. between Westerwald and Avon Aves., 21x34 ft.; cost \$119,000.

Miss., Clarksdale.—J. H. Sherard has plans by M. M. Alsop, Clarksdale, to remodel residence; cost \$10,000.

Mo., Kansas City.—Alice T. Jackson will erect brick and stucco dwelling; cost \$11,000.

Mo., Kansas City.—Gerhard Bergston will erect stucco residence; cost \$4,000.

Mo., Kansas City.—Cowherd Land Co. will erect four 2-story stucco dwellings at 2715-23 Highland St.; cost \$800.

Mo., Kansas City.—E. E. Jones will erect six 1-story dwellings at 3116-28 Cleveland St.; cost \$10,100.

Mo., Kansas City.—F. W. Metcalf will erect three 2-story brick and stucco dwellings at 5318-20 Cleveland St.; cost \$6,500.

Mo., Kansas City.—Gus Agee will erect 2-story stucco dwelling; cost \$3,000.

Mo., Kansas City.—John H. Kelly will erect four 2-story stucco dwellings; cost \$11,000.

Mo., Kansas City.—Sharon & Bump will erect five stucco-vener dwellings; cost \$12,500.

Mo., Kansas City.—Matt O'Connell, 611 Indiana Ave., will erect 2 dwellings at 2424 and 2428 Sixty-ninth St. Ter.; stone and stucco; shingle roof; pine and oak floors; hot-air heat; gas and electric lights; cement sidewalks; cost \$5,000; plans and construction by owner. (Lately noted.)

N. C., Albemarle.—Z. V. Moss will erect 2 bungalows on Hearne Heights.

N. C., Albemarle.—J. R. Moss will erect 4 bungalows on 6th St.

N. C., Asheville.—J. T. Bledsoe & Co. will erect 8-room residence; cost \$8,000.

N. C., Franklinton.—A. H. Vann will erect residence; hollow tile stuccoed; concrete foundation; tile porch floors and roof; hardwood floors.

Okla., Oklahoma City.—C. E. Huffman will erect 2 dwellings; cost \$4,000.

Okla., Oklahoma City.—D. Hopper will erect \$3,000 frame residence.

Okla., Sapulpa.—D. W. Walker will erect residence; 7 rooms; bungalow type; cost \$5,000.

Okla., Oklahoma City.—D. Cotter will erect \$3,000 frame residence.

Okla., Oklahoma City.—John McKinney will erect 2 dwellings on 37th St.; frame; cost \$8,000.

Okla., Oklahoma City.—H. C. Morgan will erect \$3,000 residence.

Okla., Oklahoma City.—N. E. Garrison will erect 2-story \$4,000 frame residence.

Okla., Oklahoma City.—O. S. Harris will erect 3 frame dwellings; cost \$525.

S. C., Walterboro.—Mrs. E. T. H. Shaffer will erect residence; 2 stories; lower floor brick veneer, upper story half timber; tile roof; hardwood and pine floors; hot-air heat, small wood or coal furnace; city electric lights; cost \$5,000. (Lately noted.)

Tenn., Memphis.—L. E. Moody will erect three 1-story 5-room frame and stucco residences; cost \$6,600.

Tex., Dallas.—S. W. McFarland will erect 16-room 2-story frame dwelling; cost \$5,000.

Tex., Dallas.—J. H. Roberts of J. H. Roberts Lumber Co. will erect residence.

Tex., Dallas.—Mrs. C. H. Lewis, 439 Live Oak St., plans to remodel residence; cost \$3,000.

Tex., Dallas.—J. P. Clark will erect brick-veneer residence.

Tex., Dallas.—S. A. Lynch will erect 3 dwellings; 5, 9 and 20 rooms; 2 stories; frame; cost \$15,500.

Tex., Dallas.—J. A. Traylor will erect 8-room 2-story frame dwelling at 703 Zangs Blvd.; cost \$3,250.

Tex., El Paso.—Jose R. Aguilles will erect bungalow; cost \$3,500.

Tex., El Paso.—Mayfield Building & Investment Co. will erect residence in Kern Place; cost \$9,000.

Tex., El Paso.—Tom B. Newman will erect 3 bungalows; cost \$6,500.

Tex., El Paso.—W. W. Spittler & Son will erect 7 bungalows; cost \$16,000.

Tex., El Paso.—A. A. Lawlor will erect 2 bungalows; cost \$5,000.

Tex., El Paso.—Frank Scott will erect bungalow; cost \$3,600.

Tex., Houston.—H. L. Borden will erect 2-story residence; cost \$16,000.

Tex., Houston.—Carl G. Swedman will erect residence; cost \$3,000.

Tex., Houston.—Charles Sigler will erect \$5,000 dwelling.

Tex., Houston.—Houston Land Corp. will erect residence; cost \$6,150.

Tex., Mount Pleasant.—S. P. Pounders will erect residence; 7 rooms; electric fixtures; cost \$3,000; Page Bros. & Griffith, Architects, Prais, Tex.

Tex., Paris.—J. H. Hancock will erect 2-story tile and stucco residence.

Tex., Paris.—Paul Bennett will erect residence; 2 stories and basement; 42x60 ft.; stucco on metal lath; metal tile roof; hardwood and tile floors; hot-air heat; concrete sidewalks; cost \$7,000; day labor; Barry, Smith & Withers, Architects, Paris.

Tex., San Antonio.—W. A. Ellis will erect 8-room residence; cost \$4,500.

Tex., San Antonio.—Sam Friedman will erect three 5-room dwellings; cost \$4,650.

Tex., San Antonio.—Mrs. E. N. Bailey will erect 6-room residence; cost \$3,500.

Tex., Terrell.—T. M. Brittain has plans by C. D. Hill & Co., Dallas, for residence; brick veneer; tile roof; electric fixtures; cost \$10,000.

Tex., Wichita Falls.—G. Clint Wood is having plans prepared by Madorie & Clarkson for residence; cost \$20,000 to \$25,000.

Tex., Wichita Falls.—W. W. Silk is having plans prepared by Madorie & Clarkson for \$10,000 bungalow.

Va., Richmond.—Atlantic Construction Co. will erect 2 brick dwellings; cost \$8,000.

GOVERNMENT AND STATE

Ark., Mena—Postoffice.—Treasury Dept., Jas. A. Wetmore, Act. Supr. Archt., Washington, D. C., opens bids Feb. 21 to erect postoffice building; plans and specifications at office of Mr. Wetmore and from custodian of site, Mena.

D. C., Washington.—Fieldhouse.—Col. W. W. Harts, 1842 Mintwood Pl. N. W., Washington, prepared tentative plans for fieldhouse in East Potomac Park.

Fla., Bartow—Postoffice.—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., opens bids Feb. 26 to erect postoffice; drawings and specifications at office Mr. Wetmore and from custodian of site, Bartow.

Fla., De Land—Postoffice.—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., receives bids until Feb. 1 to erect postoffice; drawings and specifications at office Mr. Wetmore and from custodian of site, De Land, after Jan. 22.

HOSPITALS, SANITARIUMS, ETC.

Ala., Florala.—W. S. Harlan, Jackson Lumber Co., will erect hospital building.

Ark., Fort Smith.—Sebastian County Medical Association, City Federation of Women's Clubs, and others are interested in erection of tuberculosis sanatorium.

Fla., Miami.—W. B. Moore, City Clerk, receives bids until Feb. 1 to erect administration, service and colored ward buildings of City Hospital; reinforced concrete frame; hollow tile walls; gypsum interior partitions; tile roofs; stucco exterior; plans and specifications at office of August Gelger, Archt., Miami. (Lately noted.)

Fla., St. Augustine.—Flagler Hospital Trustees approved plans for hospital to replace burned structure. (Previously noted.)

Ga., Columbus.—Muscookee County Commissioners commissioned Charles Hickman to prepare plans for tuberculosis hospital.

Miss., Laurel.—South Mississippi Charity Hospital will let contract Feb. 15 to erect building; brick; cost about \$75,000; plans and specifications at office Xavier A. Kramer, Archt., Magnolia, Miss. (Previously noted.)

Mo., Kansas City.—E. P. Haworth will erect 2-story brick addition to Willows Hospital; cost \$12,000.

Tenn., Knoxville.—City is considering \$100,000 bond issue to erect addition to Knoxville General Hospital; John E. McMillan, Mayor.

Tenn., Memphis.—City and County will petition legislature for bond issues (\$25,000 each) to erect tuberculosis hospital. Address Mayor Ashcroft or County Comms.

Va., Leesburg.—Loudoun County Hospital, R. R. Walker, Pres., opened bids to erect hospital; C. A. Langley, 310 12th St. N. W., Washington, D. C., is low bidder at \$31,800; Nathan C. Wyeth, Archt., 1517 H St. N. W., Washington, D. C.; construction under supervision of Mr. Walker. (Noted in Aug.)

Va., Norfolk.—Sarah Leigh Hospital will erect additional story for laboratory, X-ray, classroom and 3 bedrooms; X-ray room and laboratory with skylights.

Va., Staunton.—Western State Hospital Directors, Dr. J. S. DeJarnette, Supt., will erect brick structure.

HOTELS

Fla., Anna Maria.—C. M. Roser, Roy S. Hanna and others will remodel hotel at Anna Maria Beach.

Ga., Augusta.—Chronicle Building Co. plans to convert Chronicle office building into hotel; 130 rooms with necessary baths, etc.; fireproof; steel, brick and terra-cotta construction; G. Lloyd Preacher, Archt., Augusta. (Lately noted.)

Ga., Savannah.—Mills B. Lane is Chrmn. Com. to reorganize company to complete Hotel Georgia.

Miss., Pass Christian.—Mexican Gulf Hotel, Albert Aschaffenburg, V.-P. and Gen. Mgr., is reported to rebuild hotel lately noted damaged at loss \$100,000; fireproof.

N. C., Albemarle.—Lillian Knitting Mills Co. will erect boarding-house and dormitory for employees; 15 rooms; electric lights; hot and cold water; steam heat; from central plant; frame; half shingle sides; shingle roof; plans and construction by owner. (See Machinery Wanted—Heating Equipment; Plumbing Supplies.)

Okla., Aline.—Chas. Geer will erect \$7,000 hotel building.

MISCELLANEOUS

Ga., Atlanta.—Clubhouse.—Fulton Bag & Cotton Mills will expend \$50,000 to construct clubhouse, provide athletic field, baseball grounds, tennis courts, etc.; fireproof construction roof and floors; steam heat; electric lights; cement sidewalks; cost \$50,000; construction begins in spring; Benj. Elsas, V.-P.

La., New Orleans.—Exhibit.—Business Men's Racing Assn. will erect buildings for National Farm and Livestock Show.

Tex., Dallas.—Fair.—State Fair Assn., Robt. E. L. Knight, Pres., will improve fair grounds, provide fieldhouse, swimming pool, stadium, educational building, etc.; conferring with Geo. E. Kessler & Co., Landscape Architects, Fidelity Bldg., Kansas City, relative to location of buildings, etc.

Tex., Dallas.—Oil Stations.—Pierce-Fordyce Oil Assn. will erect stations at points in Texas; H. A. Overbeck, Archt., Juniata Bldg., Dallas.

Tex., Port O'Connor.—Auditorium, etc.—W. N. Hagy, San Antonio, Tex., is interested in erection of buildings at Texas Methodist Assembly grounds to include auditorium to seat 300, thirty 2 and 3-room cottages, open-air eating house (roof only), administration building, shell streets and walks, etc.; plans later to erect several memorial buildings, athletic fields, etc.

RAILWAY STATIONS, SHEDS, ETC.

Ala., Prattville.—Mobile & Ohio R. R., B. A. Wood, Chief Engr., Mobile, will erect depot.

Fla., Gainesville.—Railroad Commissioners directed Atlantic Coast Line R. R., J. E. Willoughby, Chief Engr., Wilmington, N. C.; Seaboard Air Line Ry., W. D. Faucette, Chief Engr., Norfolk, Va., and Tampa & Jacksonville Ry., A. DeSola Mendes, V.-P. and Gen. Mgr., Gainesville, to erect union passenger station; construction not yet authorized.

S. C., Orangeburg.—Atlantic Coast Line Ry., J. E. Willoughby, Ch. Engr., Wilmington, N. C., will erect \$25,000 passenger station; red brick; tile roof; tile floors; umbrella sheds along tracks; cement sidewalks; construction not yet authorized. (Previously noted.)

W. Va., Huntington.—Chesapeake & Ohio Ry., F. I. Cabell, Chief Engr., Richmond, Va., is considering erecting depot.

SCHOOLS

Ala., Florence.—City will vote on \$40,000 bonds to complete previously noted high school. Address The Mayor.

Ala., Montevallo.—Alabama Girls Technological Institute has plans by W. T. War-

ren, Birmingham, for building; 30x120 ft.; hollow tile; walls faced with brick; stone trimmings; slate roof; reinforced concrete fireproofing; steam heat; rift pine floors; contract let about Feb. 1.

Ark., Atkins.—School Board is reported to erect addition to school; cost \$20,000; J. C. Bliss, Archt., Little Rock, Ark.

Ark., Little Rock.—School Board has plans by Theo. M. Sanders, Little Rock, for school; 120x180 ft.; 3 stories; reinforced concrete; tar and gravel roof; concrete, tile and wood floors; fan system steam heat; electric lights; cost \$200,000; bids opened Feb. 12. Address School Board, 8th and Louisiana Sts. (Lately noted.)

Fla., Jacksonville.—Board of Public Instruction is having plans prepared by Mark & Sheftall, 210 Clark Bldg., Jacksonville, for 3 school buildings; 2 stories; brick walls; 8 classrooms.

Fla., Ozone.—Ozone School Dist. votes Feb. 17 on \$3500 bonds to erect school. Address Dist. School Trustees.

Fla., Salerno.—Special School Tax Dist. No. 2 plans to issue \$45,000 bonds to erect \$35,000 school at Salerno, \$5,000 for school at Stuart and \$5,000 to pay debt; Guy I. Metcalf, County Supt. of Schools, West Palm Beach.

Fla., Stuart.—See Fla., Salerno.

Ga., Milledgeville.—Georgia Normal & Industrial College will erect \$50,000 dormitory.

Ga., Valdosta.—R. H. Powell, Pres. South Georgia Normal College, receives bids until Jan. 26 to erect administration building; separate bids for heating; drawings and specifications at office Edwards & Sayward, Architects, 633 Candler Bldg., Atlanta, and from R. H. Powell, Valdosta.

Ga., West Point.—Shawmut Cotton Mills are having plans prepared by Walker & Chase, Candler Bldg., Atlanta, for school; brick and steel; steam-blast heat.

Ky., Louisville.—Literary Society of St. Catherine will erect school and auditorium; brick; cost \$20,000.

La., Bogalusa.—City is having plans prepared by Nolan & Torre, 415 Hennen Bldg., New Orleans, for 5 schools; pavilion type; 1 story; steam heat; electric lights; cost \$45,000. (Lately noted.)

La., Many.—Hope Castle and Many School Districts, and part of two other districts consolidated and will vote Feb. 13 on tax to erect \$35,000 school. Address Sabine Parish School Board. (Lately noted.)

Miss., Hollandale.—Trustees let contract at \$2755 to Davis Plumbing Co., Jackson, Miss., for heating, plumbing and electric wiring for school building for which Walker Bros. & Co., Fayette, Ala., have general contract at \$17,980; 3 stories; 8 rooms and auditorium; tar and gravel roof; steam heat; electric lights; Raymond B. Spencer, Archt., Jackson, Miss. (Lately noted.)

Miss., Pitts Camp.—Pitts Camp Consolidated School Dist. will erect school; brick veneer; tar and gravel roof; cost \$10,000; contract let about March 1; Raymond B. Spencer, Archt., 205-06 New Millsap Bldg., Jackson, Miss.

Miss., Schlatter.—Schlatter Consolidated School Dist. will erect building; brick; tar and gravel roof; swimming pool; steam heat; electric wiring; cost \$20,000; contract let about March 1; Raymond B. Spencer, Archt., 205-06 New Millsap Bldg., Jackson, Miss.

Mo., Kansas City.—University of Kansas City, Dr. J. C. Willis, Pres., leased 3-story and basement building and will remodel for Post Graduate Medical College.

N. C., Albemarle.—Stanley County Baptist Assn. will erect brick school, probably at Albemarle; cost \$20,000; Rev. R. P. Walker, Chrmn., and E. F. Eddins, Secy. Committee.

N. C., Hoffman.—Hoffman School Dist. voted \$12,000 bonds to erect school; L. J. Bell, Supt. Richmond County.

Okla., Oklahoma City.—City will vote on \$400,000 bonds to erect junior high school. Address The Mayor.

Okla., Red Fork.—School Board plans to erect school building.

Okla., Shawnee.—Oklahoma Baptist University plans to erect dormitory.

S. C., Greenville.—Greenville County voted \$25,000 bonds to erect and equip school; W. B. Moore, Chrmn. School Board.

S. C., Greenville.—Greenville School Board will petition Legislature for election on \$150,000 school bonds; W. B. Moore, Chrmn. Com. (Lately noted.)

S. C., Greenville.—City School Board will receive bids to erect high school; cost about \$65,000; plans and specifications will be

supplied to local contractors; J. E. Sirrine, Archt., Greenville. (Lately noted.)

S. C. Mills (R. R. Station, Anderson).—Duncan Mill and Mills Mill Consolidated School Dist. has plans by H. Olin Jones, Greenville, S. C., for \$25,000 school. (Noted in Aug.)

Tenn., Chattanooga.—University of Chattanooga will soon let contract to erect proposed science building; erect chapel later; both buildings to be completed by next school year.

Tex., Beaumont.—School Board has plans by Sanguinet, Staats & Gottleb, Houston, for school in Refinery Dist.; semi-fireproof; composition roof; cement and wood floors; steam heat; cost \$25,000; bids opened Jan. 16. (Lately noted.)

Tex., College Station.—A. and M. College rejected all bids to erect laboratory building and power-house at College Station and domestic arts building at Prairie View; laboratory building 3 stories and basement; 60x150 ft.; fireproof; slab roof; slab and tile floor; cost \$96,000; electric and hand elevator, \$2300; domestic arts building 70x100 ft.; 3 stories; slab roof; slab and tile floors; cost \$50,000; hand elevator, \$250; power-house 82x104 ft.; 1 story, and 68x99 ft.; 1 story and basement; cement tile; slab roof and floors; cost \$55,000; heating and lighting for all buildings from central plant; will have plans revised and call for new bids; plans by Department of Agriculture of college, which may be addressed. (Lately noted.)

Tex., Lockhart.—Lockhart Independent School Dist. will erect school for negro pupils. Address Dist. School Trustees.

Tex., Victoria.—School Board will erect school building; brick and stone; gravel roof; wood and cement floors; city electric lights; cost \$65,000; heating about \$4000; other details not determined. Address F. B. Lauder, Pres. of Board. (Lately noted.)

Tex., Wichita Falls.—Wichita Falls Ind. School Dist. has plans by Field & Clarkson, Wichita Falls, for school to replace burned Travis School; 8 rooms; 2 stories; brick; Barrett specification roof; wood floors; cost \$17,000; heating, \$500; lighting, \$75. Address architects. (Lately noted.)

Va., Norfolk.—School Board, Richard A. Doble, Division Supt., Paul-Gale-Greenwood Bldg., rejected all bids to erect annex to John Marshall School; is considering 3 propositions, 10-room, 12-room and 12-room and assembly hall; brick and ordinary construction; slate roof; steam heat; Herbert W. Simpson, Archt., Board of Trade Building, Norfolk. (Lately noted.)

W. Va., Mahan.—See W. Va., Mullens.

W. Va., Mullens.—Board of Education, Slabfork Dist., receives bids until Feb. 3 to erect schools at Mullens and Mahan; plans for former call for structure; 82x45 ft.; stucco on tile; composition roof; wood floors; city electric lights; cost \$12,000; low pressure direct indirect one-pipe system steam heating, about \$3000; latter 4 rooms; frame; 70x30 ft.; plans and specifications at office School Board, and A. F. Wysong, Archt., Princeton, W. Va. (Lately noted.)

STORES

Ark., Magazine.—Woodmen of the World will erect business and lodge building.

Ark., Marshall.—Theo Glines will erect store building; concrete.

Ark., Rogers.—Benton County Hardware Co. will remodel store building.

D. C., Washington.—R. I. Richardson will remodel store and dwelling at 1700 Vermont Ave. N. W.; 2 stories; brick; cost \$3000; A. H. Sonnenman, Archt., 1334 H St. N. W., Washington.

Fla., Jacksonville.—H. E. McAden will erect 2-story brick building; cost \$10,500.

Fla., Miami.—T. J. Nolan will erect store and apartment building. (See Apartment-Houses.)

Fla., Miami.—J. A. Dunn has plans by A. E. Lewis, Miami, for building at 429 11th St. and 430 10th St.; 48x300 ft.; front for store, wagon and auto shop on 10th St.; reinforced concrete walls; ordinary construction; asbestos built-up roof; cost \$26,000; bids opened Jan. 17; construction begun Jan. 20. Address Archt. (See Machinery Wanted—Steel Rolling Doors.)

Fla., Tampa.—Baker Bros., N. Rosenblat, Mgr., will remodel building at cost of \$10,000; new front; steel ceiling; \$4000 refrigerator.

Fla., Winter Park.—C. H. Morse will erect store, moving-picture theater, reading-room and apartment building. (See Theaters.)

Ga., Augusta.—A. F. & A. M. plan to erect

building to contain stores, etc. (See Association and Fraternal.)

Ga., Leesburg.—H. J. Bagley will erect store building.

Ga., Ocala.—Paulk Company will erect brick store building.

Ga., West Point.—J. J. Hagedorn & Co. are having plans prepared by Warren C. Powell, Candler Bldg., Atlanta, for alterations to store; 1 story; 125x126 ft.; cost \$6000.

Ky., Chenoa.—Log Mountain Coal Co., Harrison, Ky., will erect commissary and office building to replace structures lately noted damaged by fire; 40x50 ft.; brick and stone; asbestos roof; cement concrete floors; steam heat; electric lights from present plant; cost \$4500; freight elevator. Address A. Lunsford, Gen. Mgr., Harrison.

La., Jennings.—A & B Grocery Co. will erect business building.

La., Lake Charles.—Jacobs Co., L. B. Jacobs, Pres., New Orleans, will remodel interior of building and erect annex to contain 3000 ft. floor space, install elevator, etc.

La., New Orleans.—John K. Edwards of Edwards Lumber Co. will erect 2-story fireproof business building.

La., New Orleans.—H. M. Field will erect business building; about 150x100 ft.

Md., Baltimore.—J. Dashew is having plans prepared by George R. Callis, Jr., 55 Knickerbocker Bldg., Baltimore, for improvements to store at 417 W. Baltimore St., to include additional story; installation of elevator; interior fixtures, etc.; slag roof; wood floors; 22x60 ft.; entire fourth story front of ornamental terra cotta, copper, galvanized iron and glass. Address architect.

Mo., Kansas City.—C. O. Jones will erect business and apartment building at 1101-07 Troost St.; 3 stories; cost \$50,000.

Mo., Kansas City.—M. A. Wenfert will erect 4-story brick business building; cost \$20,000.

Mo., St. Louis.—University Investment Co. will erect 2-story fireproof building to contain several stores, 2 and 3-room kitchenette apartments and storage warehouse in rear; white-way lighting system; cost of site and building about \$150,000.

N. C., Asheville.—Morris Meyers and Robert G. Fortune will erect office and store building. (See Bank and Office.)

N. C., Newton.—Schrum and Shipp interests will erect business building.

N. C., Wilmington.—Shrier & Solomon will improve interior of store building and install fixtures.

Okla., Chickasha.—J. F. Driggers will erect 1-story brick store building; 25x125 ft.; concrete and tile floor; L. P. Larson in charge construction.

Okla., Commerce.—Quapaw Supply Co. will erect fireproof business building.

Okla., Sapulpa.—Monning Bros. will erect store and apartment-house; 2 stories; 54x125 ft.; brick; first floor for store; 4 apartments above; cost \$17,000.

S. C., York.—Mrs. S. M. McNeel is having plans prepared by Chas. M. Robinson, Inc., Richmond, Va., for building to replace store and office structure lately noted damaged by fire at loss of \$30,000.

Tenn., Nashville.—Tennessee Extract Co. will expend \$4000 to remodel brick building at 1417 6th Ave. N.

Tex., Austin.—Butler Brick Co. opens bids about Jan. 20, to erect building at 3d and Neches Sts.; 138x128 ft.; steel and concrete frame; brick filler; metal roof; concrete floors; 6x8 electric elevator; cost \$25,000 to \$30,000; C. H. Page & Bro., Archt., Austin. Address owner.

Tex., Ballinger.—T. S. Lankford will erect business building; stone; cost \$8000.

Tex., Dallas.—A. T. Lloyd will erect 1-story brick store; cost \$7500.

Tex., Dallas.—Butler Bros. are having plans prepared by Mauran, Russell & Crowell, St. Louis, and 1014 Busch Bldg., Dallas, for addition to building; 8 stories; frontage 300 ft.; cost \$250,000. (Lately noted.)

Tex., El Paso.—Jolly & Morris will remodel Bryan Bros.' building at Texas and Oregon Sts.; cost \$4900.

Tex., El Paso.—C. D. Pollock will expend \$11,000 for repairs to building at Missouri and St. Vrain Sts.

Tex., Gainesville.—Geo. Rice will erect 2-story brick business building to replace lately collapsed structure.

Tex., Gonzales.—Jos. Wearden will erect brick business building; plans in progress.

Tex., Mount Pleasant.—Lillinsterner Bros. have plans by Page Bros. & Griffith, Paris, Tex., for remodeling Morris Hotel block into business building; face brick; electric fixtures.

Tex., Lubbock.—W. G. Russell will erect business building; 2 stories and basement; 25x125 ft.; brick and concrete.

Tex., Paris.—Dr. T. F. Roberts will erect 1-story business building.

Tex., Paris.—Pete Humphries will erect 1 or 2-story business building.

Tex., Post.—W. R. Graeber has plans by W. R. Gilmore, Post, for 1-story business building; 20x110 ft.; face brick; limestone trimming; asphalt, felt and gravel roof; wood and concrete floors; electric fixtures.

Tex., Seymour.—Ransom Estate will erect 2 brick dwellings.

Tex., Waco.—Texas Lumber & Loan Co. will erect additional story to 1-story building under construction; frontage 135 ft.; glass front.

Tex., Wichita Falls.—Dr. W. H. Walker contemplates erecting 3-story brick building; electric elevator; cost about \$30,000; 4 stores on lower floor; upper stories for apartment-house or hospital; plans to be prepared by owner.

Va., Petersburg.—P. W. Smith will erect brick store to replace burned structure at loss \$10,000 to \$12,000.

W. Va., Fairmont.—Harr, Haggerty, Holt & Hall will erect 3-story business building and apartment-house.

THEATERS

Fla., Winter Park.—C. H. Morse will erect store, moving-picture theater, reading room and apartment building; 75-ft. front; ordinary construction; built-up roof; ordinary floor construction; electric lights; F. H. Trimble, Archt., Orlando, Fla.

Ga., Valdosta.—Mrs. A. Converse is reported to erect theater to be occupied by Tyson Bros., owners of Strand Theater; seating capacity 500; ceiling and ventilating system to cost \$2500.

La., New Orleans.—Sobel-Richards-Shear Amusement Enterprises will erect Carrollton Theater; M. H. Goldstein, Archt., Title Guarantee Bldg., New Orleans; also having plans prepared for 2 other theaters.

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

Ga., Atlanta.—G. F. Willis is reported to have let contract to H. W. Nichols & Son, Atlanta, to erect apartment-house; 15 six-room suites.

ASSOCIATION AND FRATERNAL

Ark., Little Rock.—A. O. U. W. let following contracts for material to erect lodge and office building for which Geo. W. Fair, Little Rock, has general contract: Face brick, Hydraulic-Press Brick Co., St. Louis; cement, G. A. Leiper & Co., Little Rock; reinforcing steel, Superior Builders' Supply Co., Little Rock; terra-cotta, Northwestern Terra-Cotta Co., Chicago; structural steel, Illinois Steel Bridge Co., Jacksonville, Ill.; metal windows, Argenta Sheet Metal Works, Argenta; plans by Mann & Stern, Little Rock, call for building 50x90 ft.; 10 stories and basement; steel skeleton frame; enamel brick sides; stone and terra-cotta front; reinforced concrete floors on steel girders; city lighting; 2 high-speed electric elevators; vapor steam heat; cost \$150,000. (Lately noted.)

Fla., Jacksonville.—Bank of Clearwater let contract to erect building; third floor for lodge. (See Bank and Office.)

BANK AND OFFICE

Ark., Little Rock.—A. O. U. W. let various contracts for materials to erect lodge and office building. (See Association and Fraternal.)

Fla., Clearwater.—Bank of Clearwater let contract to C. W. Parker, Tampa, Fla., to erect \$40,000 building; 3 stories; lower floor for stores; second, offices; third, lodge; construction under supervision of Francis J. Kennard, Archt., Tampa. (Lately noted.)

Ga., Atlanta.—Atlanta Mortgage & Savings Co. let contract to C. Shelverton, Atlanta, to erect building; 3 stories and basement; 20x54 ft.; brick and wood construction.

Ga., Macon.—Bibb National Bank let contract to E. J. Arnold, Macon, to remodel

Miss., McComb.—B. A. Heidenreich has plans by Harry Stewart, McComb, for lately noted moving-picture theater; 55x76½ ft.; composition roof; sloping pine floor; stores; electric lights; cost \$3000. Address owner or W. O. Rutledge, McComb. (See Machinery Wanted—Electric Equipment.)

Mo., Kansas City.—Willis Wood estate will remodel Willis Wood Theater lately noted damaged by fire at loss \$40,000 to \$50,000.

Tenn., Chattanooga.—Signal Amusement Co. will erect Tivoli Theater; seating capacity 1670; auditorium 73 ft. wide; proscenium arch of stage 38 ft. with stage depth 42 ft.; dressing rooms on separate lot; 8 boxes; fireproof construction; heated by warm air, forced over steam coils automatically forming portion of ventilating system; cooled in summer by typhoon blowers in rear and roof; electric lights; cost \$115,000. (Previously noted.)

Tex., Corpus Christi.—I. C. Tabor will erect theater; brick; fireproof; 40x130 ft.; lobby 14x40 ft.; storerooms on either side 12x40 ft.; total seating capacity, main floor and smoking gallery, 550; to be leased by H. H. Elliott of Rex Theater.

Tex., San Angelo.—Robb & Rowley are having plans prepared by Geo. Burnett Co., Waco, for moving-picture theater; face brick, terra cotta, marble and iron; metal partitions; electric fixtures; cost \$35,000.

W. Va., Bluefield.—S. L. Matz, Cincinnati, O., is reported to erect theater with seating capacity 1500.

WAREHOUSES

Mo., St. Joseph.—Richardson Dry Goods Co. has plans by Rudolph Heim, St. Joseph, for warehouse; 7 stories and basement; 100x140 ft.; mill construction; cost \$125,000; contract let for lumber.

Mo., St. Louis.—University Investment Co. will erect building for storage warehouse, etc. (See Stores.)

Okla., Enid.—Gallon Iron Works plans to erect warehouse.

Tenn., Franklin.—Company organized by Walter L. Bennett, Pres., and T. H. Watts, Secy., will erect loose leaf tobacco warehouse.

Tex., San Antonio.—J. C. Dielmann will erect warehouse; cost \$3500.

building for bank; rearrange present fixtures, install additional fixtures and vault, construct front, tile floors, etc.; Nisbet, Brown & Dunwoody, Archts., Grand Bldg., Macon. (Lately noted.)

N. C., Roxboro.—Pass, Woody & Long let contract to erect building for offices, etc. (See Stores.)

Okla., Sapulpa.—R. T. Shearer let contract to erect store and office building. (See Stores.)

Va., Danville.—Patton, Temple & Williamson let contract to L. B. Flora, Danville, to erect addition to Arcade Bldg.; 50x89 ft.; 2 stories; brick and stucco; tar and gravel roof; rift pine and terrazzo floors; cost \$20,000; vapor heat, \$3000; lighting, \$225; Heard & Cardwell, Archt., Lynchburg, Va. (Lately noted.)

CHURCHES

Ark., Charleston.—Presbyterian Church let contract to T. B. Westmoreland to erect building.

Ga., Atlanta.—St. Phillips Cathedral let contract to B. M. Walker, Atlanta, to erect chapter house for Sunday-school and institutional purposes.

Mo., St. Joseph.—First Christian Church let contract to Lawhon-Stomey Construction Co., 212 N. 7th St., St. Joseph, to erect 2-story building; brick and stone; tile, tar and gravel roof; steel frame floor construction; vacuum heat; cost \$75,000.

Tex., Coleman.—First Presbyterian Church let contract to J. A. Thomas, Cleburne, Tex., to erect building; 60x70 ft.; cost \$30,000; T. J. Galbraith, Archt., Slaughter Bldg., Dallas. (Lately noted.)

Tex., Haskell.—Baptist Church let contract to J. N. McFatter, Haskell, to erect building; brick; metal shingle roof; cement and wood floors; stores; cost \$15,000; city electric lights, \$150; W. N. Meredith, Archt., San Angelo, Tex. Address contractor. (Lately noted.)

Tex., Timpson.—First Baptist Church let contract to C. G. Edwards, Longview, Tex., to erect \$10,000 building; T. J. Galbraith, Archt., Slaughter Bldg., Dallas.

DWELLINGS

D. C., Brookland.—E. M. Nevils, 55 Adams St., Washington, D. C., let contract to A. Jeffery, Brookland, to erect 3 dwellings at 1610-14-20 Monroe St. N. E.; 29x36 ft.; frame and shingle; vulcanite roofs; pine floors; combination gas and electric lighting; cost \$2300; Ideal perfection heating plant, \$300; A. C. Chaney, Archt., Woodridge, D. C. (Lately noted.)

Fla., St. Petersburg.—Louise Meineke let contract to Robt. L. Sharp, St. Petersburg, to erect residence; 6 rooms; cost \$3600.

Fla., West Palm Beach.—Albert Zigler, Niagara Falls, N. Y., let contract A. C. Nelson, West Palm Beach, to erect residence; 2 stories; 36x38 ft.; frame and stucco; composition roof; rift-sawn pine floors; electric fixtures; cost \$6000.

Ga., Augusta.—Dr. J. B. Davenport let contract to T. O. Brown & Son, Augusta, to erect residence; brick; composition shingle roof; Thos. M. Campbell, Archt., Augusta.

Ga., Augusta.—Mrs. Carter Burdell will erect \$14,000 residence; contract let.

Ga., Waycross.—G. W. Deen let contract to W. J. Gassett, Waycross, to erect residence.

Ga., West Point.—Lanett Cotton Mills, Geo. H. Lanier, V.-P. and Gen. Mgr., will erect 60 cottages in mill village, also remodel old cottages, installing water-works in all dwellings, etc.

La., New Orleans.—Mrs. Chas. A. Sarrazin let contract to F. L. Markel, New Orleans, to erect residence; 2 stories; cost \$5836.

La., New Orleans.—Abraham Emdon let contract to John F. Charlton, New Orleans, to erect \$3968 residence.

La., New Orleans.—J. A. Gaudet let contract to A. C. Babin Sons, New Orleans, to erect 2-story frame \$4890 residence.

La., New Orleans.—John C. Meade let contract to Edw. F. Baehr, New Orleans, to erect residence; 2 stories; frame; cost \$4650.

La., New Orleans.—Phoenix B. & H. Assn. let contract to Louisiana Building & Contracting Co., New Orleans, to erect \$3890 frame residence.

La., New Orleans.—Peter Jung let contract to F. L. Young, New Orleans, to erect \$3350 frame residence.

Md., Baltimore.—Harry Eastman let contract to J. Charles Kemper, Mt. Washington, Md., to erect 10 houses on Woodland Ave.; 22x36 ft.; brick; asphalt-gravel roof; oak and pine floors; steam heat; electric lights; cement floors; cost \$2500 each; Harry K. Smart, Archt., Arlington, Md. (Lately noted under Md., Woodlawn.)

Md., Brooklyn.—Frank Atkins let contract to John H. Gels & Co., First St., Brooklyn, to erect 6-room bungalow in Curtis Heights.

Md., Brooklyn.—H. C. Bourke, 6th St. and Potomac Ave., let contract to Brooklyn Building & Supply Co. to erect 3 frame dwellings on Carroll St. near Fifth St.

Md., Brooklyn.—C. Phillip Meyers let contract to James Ore, Seventh St. and Potomac Ave., Brooklyn, to erect 2 frame residences at 6th and Potomac Sts.

Miss., Clarksdale.—Samuel Sack let contract to Harrell & Pickett, Clarksdale, to erect two 5-room bungalows; hot-air heat; M. M. Alsop, Archt., Clarksdale.

N. C., Charlotte.—W. J. Brown let contract to W. J. Hyndman, Charlotte, to erect residence; 2 stories; 10 rooms; frame; ornamental stone foundation and trimmings; cost \$14,000; W. H. Peeps, Archt., Charlotte.

Okla., Chickasha.—J. W. Greek let contract to Rushing & Puckett to erect 6-room bungalow.

S. C., Chee-Ha.—James Henry Rice, Jr., Ritter, S. C., let contract to Earle Graham, Ninety-Six, S. C., to erect residence; 18 rooms; frame; tin roof; hardwood floors; open fireplaces; electric lights from storage battery; cost \$15,000; James Henry Rice, 3rd, Archt. (Lately noted under S. C., Wiggins.)

S. C., Greenville.—Vivian Q. Guion, Box 922, Greenville, let contract to T. H. Cromer, Greenville, to erect residence; 8 rooms; frame; cypress shingle roof; oak floors; cost \$5590; steam heat, \$400; lighting, \$150; Martin & Ward, Archts., Greenville. Address owner; will also erect other dwellings. (Lately noted.)

S. C., Greenwood.—John I. Chipley has plans by and let contract to Thos. W. Cochran, Greenwood, to erect residence; 2 stories and basement; frame and brick veneer; stone foundation; terra-cotta tile roof; hardwood floors on frame construction; low pressure steam heat; electric lights; receiving bids on material. Address Contr.

Tenn., Memphis.—Mrs. Rose M. Arnold is reported to have let contract to J. M. Harris, Memphis, to erect 1-story 5-room frame and stucco residence; cost \$3200.

Tex., Dallas.—A. Schultz let contract to Frank Schultz, 4906 East Side, Dallas, to erect 2-story, 10-room, \$3000 frame residence.

Tex., Dallas.—J. M. Johnson let contract to Miller-Steiner Co., Dallas, to erect residence; 2 stories; 7 rooms; brick; cost \$4250.

Tex., Dallas.—W. A. Thomas, 803 Southwest Life Bldg., let contract to T. J. Allen, Victor St., Dallas, to erect residence; 56x50 ft.; tile; gravel roof; oak floors; cost \$10,000; hot-air heat, \$500; electric lights, \$500; sidewalks, \$50. Address owner.

Tex., Dallas.—Jacob Yonack, 2713 S. Ervay St., let contract to Lloyd & Gray, Dallas, to erect 2-story 10-room brick and hollow-tile residence; asphalt shingle roof; hardwood floors; tile bathrooms; cost \$16,000.

Tex., Dallas.—T. B. Love let contract to Dr. J. W. Halsell, 801 Commonwealth Bldg., Dallas, to erect brick and tile residence in Munger Place.

Tex., Dallas.—Walter Whitley, 618 Slaughter Bldg., Dallas, has contract to erect residence at Hillcrest and Princeton Sts.; brick and stucco; cost \$6500.

Tex., Dallas.—W. W. Graham, 1015 S. Beacon St., let contract to W. C. Runyon, Dallas, to erect 5 dwellings in Mt. Auburn.

Tex., Dallas.—T. E. Cranfill of Seay-Cranfill Co., 1104 Main St., let contract to Dr. J. W. Halsell, 801 Commonwealth Bldg., Dallas, to erect residence in Munger Place.

Tex., El Paso.—W. B. Latt let contract to Beaudette & Cropper, El Paso, to erect residence; 2 stories; 9 rooms; cost \$10,000; Braunton & Leibert, Archts., El Paso.

Tex., Paris.—M. P. Alexander let contract to C. G. Caviness, Paris, to erect 2-story residence.

Tex., Sherman.—B. D. Dye let contract to Chas. A. Young, Sherman, to erect 7-room residence; 34x58 ft.; frame; composition slate roof; wood and tile floors; electric fixtures; cost \$3000; Wm. Albert Tackett, Archt., 414 M. & P. Bank Bldg., Sherman.

Tex., Waco.—Dr. Merchant W. Colgin let contract to W. T. Crawford, 11th and Clay Sts., Waco, to erect residence; 2 stories; frame stucco; Walter concrete tile roof; wood floors; cost \$9500; heating plant, \$500; lighting, \$350; Ross & Cason, Archts., Waco. Address contractor. (Lately noted.)

GOVERNMENT AND STATE

N. C., Roxboro.—Postoffice.—Pass, Woody & Long let contract to erect building for postoffice, etc. (See Stores.)

Tex., Nacogdoches.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Act. Supr. Archt., Washington, D. C., let contract at \$46,000 to Graeme-McDonald Co., 522 Call Bldg., San Francisco, Cal., to construct postoffice; completion in 12 mos. (Noted in Nov.)

Tex., Stamford.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Act. Supr. Archt., Washington, D. C., let contract to Jones Bros. to erect postoffice.

HOSPITALS, SANITARiums, ETC.

Tex., Cuero.—Dr. J. H. Reuss, owner of Salome Hospital, let contract to Janssen Bros., Runge, Tex., to erect hospital; cost \$40,000; H. A. Reuter, Archt., San Antonio. (Previously noted.)

HOTELS

Md., Cumberland.—Cumberland Hotel Co. let contract to Kean & Clark to erect Fort Cumberland Hotel at Baltimore and Liberty Sts.; 7 stories and basement; fireproof; stone, brick, and concrete construction. (Previously noted inceptd. with \$350,000 capital.)

S. C., Greenville.—Imperial Hotel let contract to J. F. Gallivan Building Co., Greenville, to erect addition to hotel on J. W. Norwood lot, Richardson St., and to W. M. Jordan, Greenville, to erect addition between present hotel and Norwood property; fireproof; reinforced concrete and steel; 7 stories; buff impervious brick finish; Indiana limestone trimming; 65 rooms; terrace garden and sun parlor; dining-room to seat 500; enlarged kitchen; cold-storage plant; electric elevator; total frontage 136 ft.; hardwood, tile and marble tile interior finish; also remodel present structure; cost \$150,000; F. H. and J. G. Cunningham, Archts., Greenville. (Lately noted.)

MISCELLANEOUS

Md., Baltimore.—Historical Society.—Maryland Historical Society let contract to Cowan Building Co., 106 W. Madison St., Baltimore, to remodel and erect addition to old Enoch Pratt mansion at Monument St. and Park Ave.; Wyatt & Nolting, Archts., 1012-15 Keyser Bldg., Baltimore.

Okla., Chickasha.—Oil Station.—Western Oil Co. let contract to Ray Ingles to erect station; 30x50 ft.; iron-clad construction.

Tex., Fort Worth.—Restaurant.—Sam Joseph let contract to Bryce Building Co., Fort Worth, to remodel restaurant to include new kitchen, enlarge dining room, provide banquet rooms on second floor.

Tex., Paris.—Barn.—W. F. Walker has plans by Barry, Smith & Withers, Paris, and let contract to Campbell & Lowery, Paris, to erect barn; 1 and 2 stories; 108x142 ft.; brick and wood; composition roof; concrete floor; concrete sidewalks; cost \$15,000; owner will purchase materials.

RAILWAY STATIONS, SHEDS, ETC.

Ga., Atlanta.—Southern Ry., B. Herman, Ch. Engr., Washington, D. C., let contract to H. J. Carr & Co., 15 Jones Ave., Atlanta, to erect passenger station on Peachtree St., Brookwood; concrete, brick and stone; tile roof; concrete floors; steam heat; electric lights; cement sidewalks; cost \$50,000; Hentz, Reid & Adler, Archts., Atlanta. (Lately noted.)

Tex., Dallas.—Texas & Pacific R. R. Co. let contract to Watson Construction Co., Dallas, to erect 1-story frame shed; cost about \$7000.

Tex., Palestine.—International & Great Northern Ry. Co., O. H. Crittenden, Ch. Engr., Houston, let contract to Edwards & Co., Houston, to remodel passenger depot.

Va., Norfolk.—Atlantic Coast Line Ry., J. E. Willoughby, Ch. Engr., Wilmington, N. C., let contract to A. M. Walkup Co., Richmond, to erect passenger station; 48x38 ft., with 2 wings 22x43 ft.; brick; terra-cotta trimmings; semi-fireproof; asbestos built-up roof; reinforced concrete with tile finish floors; Webster system direct steam heat; electric lights; concrete sidewalks; cost \$50,000 to \$60,000; G. M. Poley, Archt., Wilmington, N. C. Address contractor. (Lately noted.)

SCHOOLS

Fla., Jacksonville.—Duval County Board of Public Instruction let contract at \$90,038.40 to Florida Engineering & Construction Co., Jacksonville, to erect Riverside School; 16 classrooms, auditorium, domestic science and manual training equipment, etc.; Rutledge Holmes, Archt., Jacksonville. (Lately noted.)

La., Hornbeck.—School Board let contract to erect proposed high school; steam heat.

La., New Orleans.—Tulane University Board of Administrators, R. M. Walmesley, Pres., let contract to George J. Glover, New Orleans, to erect 3 structures, art and administration buildings and dormitory; cost \$767,000; J. Gamble Rogers, Archts., 470 4th Ave., New York.

Md., McDonough.—McDonough School Trustees, E. Stanley Gary, Pres., Equitable Bldg., Baltimore, let contract to Cowan Building Co., 106 W. Madison St., Baltimore, to erect Jane Bay Home for Boys; plans by Kenneth M. Murchison, 101 Park Ave., New York, call for 3 stories and basement; brick; slate roof; hardwood floors; steam heat; electric lights; cost \$50,000; Wm. H. Emory, Jr., of Emory & Nussear, 415 Professional Bldg., Baltimore, Supervising Archt.; plumbing and heating contracts also let. (Noted in November.)

Tex., Beaumont.—School Board let contract to McBride & Law, Beaumont, to erect Junker Ward School; to Ed E. Eastham, Beaumont, at \$4965 for plumbing; Neches Electric Co., Beaumont, electrical work; plans by Sanguinet & Staats, Fort Worth and Houston, call for semi-fireproof structure; slate roof; wood floors; gravity steam heat; cost \$14,500. (Lately noted.)

Tex., Austin.—University of Texas let contract to A. W. Johns, Box 441, Austin, to erect men's gymnasium; 105x112 ft.; wood; paroid composition roof; edge-grain pine floors; steam heat connected with present university plant; electric lights; cost \$6500; Geo. A. Endress, Archt., Austin. (Lately noted.)

Va., Danville.—Trustees let contract to Haymes Bros., Chatham, Va., to erect auditorium to Stonewall Jackson school; cost \$6400.

Va., Portsmouth.—E. C. Ford, Norfolk, Gen. Contr., to erect high school, let con-

tract for plumbing at \$4,314.32 to Oscla Dashiell, Portsmouth, and to G. M. Ball Electrical Co., Portsmouth, for electrical work; cost of building \$111,682; C. M. Robinson, Inc., Archt., Richmond. (Lately noted.)

STORES

Fla., Clearwater.—Bank of Clearwater let contract to erect building to contain stores, etc. (See Bank and Office.)

Ga., Atlanta.—Henry S. Jackson and R. F. Maddox let contract to G. H. Bray, Atlanta, to alter building at Forsyth and Alabama Sts.; 2 stories; 3 store fronts; frame floors; heating by city power; all subcontracts let; cost \$3500.

Ga., Atlanta.—Louis K. Liggett & Co., New York, let contract for improvements to store building; 3 stories and basement; 45x42 ft.; tile floors; steam heat; cost \$5000; Warren C. Powell, Archt., Candler Bldg., Atlanta.

Ga., Atlanta.—R. R. Arnold let contract to G. H. Bray, 509 Candler Bldg., Atlanta, to remodel store building; tar and gravel roof; wood floors; repair elevator, etc.; reported cost \$5500; Warren C. Powell, Archt., Atlanta; to be occupied by A. G. Spaulding & Bros. (Lately noted.)

La., Lake Charles.—Mrs. H. Rosenthal let contract to P. Olivier & Son, Lake Charles, to erect store building; 200x50 ft.; fireproof; composition roof; cement floors; cost \$15,000. (Lately noted.)

La., Shreveport.—T. Alexander, 517 Market St., let contract to A. Skoog, Shreveport, to erect store building; 40x50 ft.; brick; composition roof; concrete and wood floors; gas and electric lights; cost \$4550; E. F. Neild, Archt., Shreveport. (Lately noted.)

N. C., Roxboro.—Pass, Woody & Long let contract to Wilkerson & Bowles, Durham, N. C., to erect store, postoffice and office building; about 50x100 ft.; brick and concrete walls; slag roof; wood floors; cost \$20,000; Heard, Cardwell & Craigbill, Archts., 1107-08 Peoples National Bank Bldg., Lynchburg, Va. (Lately noted.)

N. C., Taylorsville.—Ed C. Campbell, Taylorsville, has contract to erect 3 stores on Main St. for J. C. Wike, John Beber and W. T. Bobbitt; 25x60 ft.; brick; metal roofs; cost \$6000.

Okla., Sapulpa.—R. T. Shearer let contract to Charles Fisher to erect 2-story business building; brick, terra-cotta and marble; second floor, offices.

Okla., Tulsa.—R. M. McFarlin let contract to Vanhorn-Brickner & Co., Tulsa, to erect store building; 50x140 ft.; 6 stories; reinforced concrete; composition roof; hollow-tile floors with concrete ribs; steam heat; cost \$150,000; elevators, \$12,000; Barnett, Haynes & Barnett, Archts., St. Louis. (Lately noted.)

Okla., Tulsa.—R. M. McFarlin let contract to Van Horn, Brickner & Co., Tulsa, to erect store building; 50x140 ft.; 5 stories and basement; brick and reinforced concrete; gravel roof; concrete and wood floors; cost \$175,000; steam heat, \$8000; Barnett, Haynes & Barnett, Archts., St. Louis. (Lately noted.)

Tex., Beaumont.—E. C. Cherry let contract to J. S. Meriweather, Beaumont, to erect business building; brick; 80x100 ft.; completion by Apr. 15; cost \$7927; F. W. Steinman, Archt., Beaumont.

Tex., Fort Worth.—H. C. Meacham Co. let contract to Bryce Building Co., Fort Worth, for improvements to 3-story and basement building to include rearrangement of interior, new fixtures, etc.; cost \$50,000.

Tex., Houston.—V. Lucia let contract to James Autill, Houston, to erect business building and warehouse; 2 stories and basement; 125x85 ft.; contractor will purchase material, including brick, mill work, steel, iron, brass work, gravel roof; concrete flooring, metal partitions, skylight, etc.; cost about \$23,000; Cook & Co., Archts., Theater Bldg., Houston. (Lately noted.)

Va., Richmond.—Charles J. Billups will erect 2-story brick store; cost \$7800; James Fox & Sons, Contrs., Richmond.

WAREHOUSES

Md., Baltimore.—Canton Co., Commerce and Water Sts., let contract to West Construction Co., Knickerbocker Bldg., Baltimore, to erect warehouse; 250x90 ft.; 3 stories; brick and hollow tile; cost about \$60,000.

S. C., Charleston.—South Carolina Warehouse Corporation let contract to Dawson Engineering Co., Charleston, to construct 2 fire walls on Charlotte Street building, dividing into 4 compartments; one 400 ft. long, reinforced, other 250 ft. long, brick; cost \$15,000.

Tex., Fort Worth.—C. A. O'Keefe let contract to Buchanan & Gilder, Fort Worth, to erect warehouse; 100x150 ft.; 6 stories; reinforced concrete; composition roof; concrete floors; freight elevator; cost \$125,000; Sanguinet & Staats, Architects, Fort Worth. (Lately noted.)

Tex., Houston.—Moncreif-Lenoir Mfg. Co.

let contract to Frank Heidelberg, Houston, to erect warehouse; 100x112 ft.; 3 stories; brick; composition roof; mill construction floors; cost \$20,000; A. C. Finn, Archt., Houston. (Lately noted.)

Tex., Houston.—V. Lucia let contract to erect business and warehouse building. (See Stores.)

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Air Compressor.—See Machine Shop Equipment.—Southern Motor Co.

Air Compressor, etc.—D. C. & E. Mining Co., 1216 W. Main St., Louisville, Ky.—Prices on air compressor; 2500 cu. ft. free air per minute; Corliss valve steam compound; air bubble stop; steam 130 lbs., air 110 lbs.; also 18x36 Corliss engine; will consider second-hand, good condition; for installation Webb City, Mo.

Architects.—John D. Cox, care Jonesboro Supply House, Jonesboro, Tenn.—Correspondence with architects as to plans for 80x100 ft. 2-story garage in Florida.

Art Glass Ceiling.—See Building Materials.—Roy E. Lane & Co.

Ash Lifts.—See Building Materials.—Roy E. Lane & Co.

Automobile Repair Equipment, etc.—Royston Hardware Co., Royston, Ga.—Prices on equipment for (Ford) service and repair work.

Automobiles.—M. A. Billingsley, R. No. 1, Killen, Ala.—Addresses of manufacturers of good cheap automobiles. (See Cement, Oils, Paint, etc.)

Automobile Supplies, etc.—Metzgar & Hoppe, Abilene, Tex.—Prices on automobile supplies; office furniture (showcases and wall cases); jobbers' prices on tires, tubes, storage battery, hydrometers, automobile light bulbs, tire tape, blow-out boots, lighting and ignition cable and small ammeters.

Bank Fixtures.—Building Committee, Boonville National Bank, W. W. G. Helm, Chrmn., Boonville, Mo.—Bids on fixtures for bank building to be remodeled.

Barrels.—Sam Flake, Greenville, N. C.—Barrels for shipping pork.

Beltting (Leather).—F. Williamson, Johnson City, Tenn.—Prices on leather beltting to drive woodworking machinery in furniture factory.

Boiler.—See Engine and Boiler.—F. Williamson.

Boiler.—See Engine and Boiler.—W. W. Gibson & Son.

Boiler.—See Engines (Hoisting), etc.—Forest Lumber Co.

Boilers (Water Tube).—Easton Machinery Co., Box 41, Phillipsburg, N. J.—Water-tube high-pressure boilers; wire description and prices.

Boiler.—Virginia Machinery & Well Co., 1319 E. Main St., Richmond, Va.—40 H. P. locomotive boiler on skids, or portable return tubular boiler, such as Economic or Scotch marine type; second-hand will do; shipment to Georgia.

Boiler.—Porter & Moore Co., 421 Water St., Norfolk, Va.—12 H. P. portable boiler; second-hand; guaranteed for 100 lbs. steam pressure, with usual fixtures.

Boxes and Cartons.—Chas. A. Ford, Murphy Bldg., Front Royal, Va.—Addresses of manufacturers of cartons and paper boxes.

Brick.—J. A. McCord, Pineville, Ky.—Prices on brick for \$20,000 church building.

Brick Machinery.—H. L. Douglas, Morristown, Tenn.—Data and prices on equipment to manufacture sand-lime brick.

Bridge (Draw, Timber).—Palm Beach County Commrs., Geo. O. Butler, Clk., West Palm Beach, Fla.—Bids until Feb. 6 to construct timber drawbridge across Florida Coast Line canal (Jupiter river), at Jupiter; plans and specifications on file at Clk.'s office and copies obtainable for \$7.50.

Bridge Construction.—See Road Construction.—Maryland State Roads Commission.

Bridge Construction.—Greenbrier County Court, John S. Crawford, Clerk, Lewisburg, W. Va.—Bids until Feb. 6 to construct concrete bridge across Little Sulphur Branch on James River and Kanawha turnpike; proposals received on alternate plans supplied by contractors, which meet requirement of Rader Bros., Engrs., Lewisburg, at whose office detailed information may be obtained.

Building Materials.—James McGifford, P. O. Box No. 1328, Capetown, South Africa. To represent manufacturers of hardware lines generally; building materials; galvanized flat and corrugated iron; tools; water tubing and fittings (English threads); wire; nails; brushes; wall boards; etc.

Building Materials.—Roy E. Lane & Co., 255 First National Bank, Paris, Tex.—Prices on skylights, art glass ceiling, grilles, balustrades, bronze doors, fireproof windows and doors, marble floors, circular stairs, fuel doors, ash lifts, window guards, etc., for \$25,000 bank building.

Building Materials.—See Mining Machinery, etc.—Fernwood Mining Co.

Burning (Lead) Outfit.—Piedmont Electric Co., Asheville, N. C.—Data and prices on oxy-aluminating gas lead burning equipment for general and storage battery repair.

Canning Outfit.—John O. Hughes, Abbeville, La.—Data and prices on home canning outfits retailing at \$10 to \$20; probably buy 100 or more equipments.

Cars (Flat).—Easton Machinery Co., Easton, Pa.—12 standard-gauge flat cars.

Cars.—Pennsylvania Equipment Co., Philadelphia, Pa.—50 to 100 Roger or similar make ballast cars; second-hand.

Cartons (Paper).—Virginia Stock & Poultry Food Co., Louisa, Va.—Addresses of manufacturers of cardboard cartons for poultry and stock food preparations.

Castings (Malleable).—Gresham Machine Works & Plumbing Co., Washington, Ga.—Malleable castings.

Castings, Stampings and Forgings.—Automatic Starter Lock Co., T. E. Boyett, Gen. Mgr., Mobile, Ala.—Small die castings, malleable castings, steel stampings and drop forgings.

Cement, Oils, Paint, etc.—M. A. Billingsley, R. No. 1, Killen, Ala.—Addresses of manufacturers of Portland cement, paints, lubricating oils, pen points; also of farming implements and cheap automobiles.

Chemicals.—See Textile Products, etc.—Sven Wahlgren & Co.

Concrete Block Machinery.—D. M. Pipkin, Safety Harbor, Fla.—Prices on machine and molds for making concrete building blocks; both solid block and veneer.

Concentrating Mills (Lead and Zinc).—Niangua Mining & Royalty Co., Miami, Okla.—Prices on concentrating mills for lead and zinc; gas engine.

Concrete Tower.—Roy C. Whayne Supply Co., 318 W. Main St., Louisville, Ky.—Steel concrete tower, about 125 ft. high, for spouting system.

Cutter (Ensilage).—Dixie M. Hollins, Secy. and County Supt., Clearwater, Fla.—Data and prices on ensilage cutter.

Doors (Iron).—See Structural Iron, etc. Wolfe Bros. & Co.

Drainage System.—Commrs. Lonoke County, Drainage Dist. No. 5 (Robt. M. Foster, Sam Dardine and H. W. Clay), England, Ark.—Bids until Jan. 19 to construct drainage system; 900,000 cu. yds. excavation; 3000 cu. yds. levee; clearing 480 acres land; plans,

specifications and estimates on file with County Clerk at Lonoke and with Dickinson & Watkins Engrs., Little Rock; copies furnished by Engrs. for \$5; further information from Chas. A. Walls, Lonoke, Ark., or Morris & Morris, England.

Drugs.—Virginia Stock & Poultry Food Co., Louisa, Va.—Addresses of importers of drugs (in Baltimore preferred.)

Dryer (Vacuum).—Easton Machinery Co., Box 41, Phillipsburg, N. J.—Vacuum dryer.

Dyeing and Cleaning Machinery.—See Laundry Machinery, etc.—Arends Manufacturing & Supply Co.

Electric Equipment.—W. O. Rutledge, McComb, Miss.—Electric equipment for \$2000 moving-picture theater.

Electric Generators.—D. M. Pipkin, Safety Harbor, Fla.—Prices on 60 K. W. generators.

Electric Motor.—Easton Machinery Co., Box 41, Phillipsburg, N. J.—Prices on 35 H. P. 220-volt D. C. motor.

Electric Motor.—F. Williamson, Johnson City, Tenn.—Prices on 50 and 100 H. P. A. C., 3 phase motors and smaller motors for furniture factory.

Electrical Generators.—Piedmont Electric Co., Asheville, N. C.—Data and price on 3 K. W. motor generator set, 110 volts, motor 60 cycles, 1 or 3-phase.

Electrical Machinery.—Howard M. Gassman, Consult. Engr., Brown-Marx Bldg., Birmingham, Ala.—Following second hand machinery in good condition: 300 K. W. engine type generator, 200 H. P. M., complete with exciter and switchboard; 300 K. W. steam engine-driven A. C. generator with exciter and switchboard, engine to be simple non-condensing for 140 lbs. pressure; generator in both cases to be 2200-volt, 60-cycle, 3-phase; induction motor generator set, 230 K. W., 900 or 1200 R. P. M., motor to be 2200-volt, 60-cycle, 3-phase, generator 250 volts D. C.; state price, delivery, make and general condition.

Electrical Supplies.—Springdale Light & Power Co., Springdale, Ark.—Prices on materials, machinery, etc., for file.

Electrical (Transmission Line) Equipment, etc.—Union Central Light & Power Co., W. A. Bass, Pres., Hubbard, Tex.—Bids on following material and equipment for delivery by Feb. 1: 43,000 ft. No. 10 D. B. W. P. insulated copper wire; 200 H. P. tubular boiler, steel, with stack, etc., complete; 200 ft. 5/8-in. diam. steel cable rope; 3 H. P. motor generator set for 220-volt current.

Elevator.—Wolfe Bros. & Co., Furniture Mfrs., Piney Flats, Tenn.—Prices on elevator.

Engine (Gas).—See Concentrating Mills (Lead and Zinc).—Niangua Mining & Royalty Co.

Engine (Hoisting).—See Machinery, etc.—Fernwood Mining Co.

Engine (Hoisting).—Jewel Supply & Equipment Co., 34 S. Calvert St., Baltimore, Md.—74x10 double-cylinder, double-drum hoisting engine; complete with boiler and foot brakes.

Engines.—See Sawmill.—McCorkle Lumber Co.

Engine and Boiler.—F. Williamson, Johnson City, Tenn.—Information and price wanted on stationary steam engine and boiler for furniture factory.

Engine (Corliss).—D. C. & E. Mining Co., 1216 W. Main St., Louisville, Ky.—Prices on 18x36 Corliss engine; new or second-hand. (See Air Compressor, etc.)

Engines (Hoisting).—See Forest Lumber Co., Carl V. Kimball, Pres., Meridian, Miss.—Prices on steam nigger, 3 saw trimmer, hoisting engine for derrick and 60x16-ft. boiler; all second-hand.

Engine and Boiler.—W. W. Gibson & Son, Mayking, Ky.—Prices on good second-hand 15 H. P. engine and boiler.

Farming Implements.—See Cement, Oils, Paint, etc.—M. A. Billingsley.

Finishing Room Equipment.—F. Williamson, Johnson City, Tenn.—Prices on finishing equipment for case goods furniture plant.

Fire Windows and Doors.—See Building Materials.—Roy E. Lane & Co.

Furniture.—H. K. Heritage, St. Petersburg, Fla.—To correspond with manufacturers of high-grade furniture in Southeast.

Grilles, etc.—See Building Materials.—Roy E. Lane & Co.

Grinding and Crushing Machinery.—See Pulp Machinery.—J. F. Singer.

Gum Resin.—Chas. W. Jacob & Allison, 18 Cedar St., New York.—To contract for dry sap or gum resin (copal resin) from between the inner and outer barks of sweet gum trees.

Hardware.—Chas. Pennington, R. F. D. No. 2, New Decatur, Ala.—Addresses of manufacturers of small malleable iron castings, such as window locks, door stops, etc.

Hardware, etc.—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until Jan. 30 for delivering powdered aluminum, ammonium chloride, paint drier, hardware, etc., and sal ammoniac at navy-yard, Norfolk. Apply for proposals to supply officer, navy-yard, Norfolk, or to Bureau.

Hat Machines.—Albert Nelson, 9 Salisbury St., Belfast, Ireland.—Data and prices on hat chucks, conformers, etc.

Heater (Garbage, Water Burning).—D. B. Traxler, Custodian U. S. Postoffice and Courthouse, Greenville, S. C.—Bids to remove hot-water heater and furnish and install square or round garbage-burning water heater, steel shell, with firepot not less than 15 in. square or 15 in. diam.; with water-tube upper grate for burning refuse and shaking lower grate for coal; specifications on application.

Heating and Plumbing.—Duval County Board of Education, F. A. Hathaway, Supt., Jacksonville, Fla.—Bids until Feb. 10 for heating and plumbing \$85,000 school building.

Heating Equipment.—Lillian Knitting Mills Co., Albemarle, N. C.—Prices on steam radiators and plumbing supplies for \$5000 boarding-house.

Heating Plant.—J. A. McCord, Pineville, Ky.—Prices on steam heating equipment for \$20,000 church building.

Heating System.—Bureau Yards and Docks, Navy Department, Washington, D. C.—Bids until Feb. 5 for furnishing and installing heating system in structural shop at navy-yard, Norfolk; drawings and specifications on application to Bureau or to commandant of navy-yard. Specification No. 2301.

Hoist (Electric).—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—Dealer's cash price on electric hoist; new or second-hand; second-hand preferred; 250 volts; to haul 2½ tons up 30 per cent. grade 200 ft. per minute; single phase, 3 phase and D. C.

Ice Machine.—Easton Machinery Co., Box 41, Phillipsburg, N. J.—5-ton ice machine.

Labelling Machinery.—Dothan Syrup Co., Dothan, Ala.—Addresses of manufacturers of can-labelling machines.

Laundry Machinery, etc.—Arends Manufacturing & Supply Co., 1724 Olive St., St. Louis, Mo.—Dealers' prices on dyers', cleaners' and laundry machinery, etc.

Levee Construction.—Commrs. Fifth Louisiana Levee Dist., Tallulah, La.—Bids until Jan. 23 to construct Cottonwood Levee in East Carroll Parish, Mississippi River, right bank; contents 250,000 cu. yds.

Locomotive.—See Sawmill.—McCorkle Lumber Co.

Machine Shop Equipment.—Southern Motor Co., 631 Monroe Ave., Memphis, Tenn.—Prices on air compressor, drill, forge and lathe.

Marble.—See Building Materials.—Roy E. Lane & Co.

Metal Shingles.—J. A. McCord, Pineville, Ky.—Prices on metal shingles for \$20,000 church building.

Metal Working Machinery.—H. M. Hillson Co., Mystic Ave. and Taylor St., Somerville (Boston), Mass.—Names and addresses of manufacturers of machines (automatic preferred) for making sheet metal elbows, both of black and galvanized iron.

Mill (Buhr, Corn and Feed).—Route 3, B 44, Salisbury, N. C.—Prices on 16 to 18-in. stone buhr mill complete for grinding corn into meal and feed.

Mining Machinery, etc.—Fernwood Mining Co., R. M. Eyster, Constr. Engr., Clarksville, Ark.—Bids on first motion hoisting engines, boiler pumps, boiler equipment, breaker machinery, building materials, mine fans of 200,000 cu. ft. per min. capacity, lumber and building accessories.

Mining (Coal) Machinery.—Cumberland Valley Fuel & Mining Co., J. W. Huffman, Mgr., 328 Grant Bldg., Atlanta, Ga.—To open bids about March 1 on motors, ventilators, inclines and sifters; all mining machinery.

Mowers (Lawn, Electrically Operated).—Georgia-Carolina Utilities Co., Whitaker & Harris Sts., Savannah, Ga.—

Data and prices on electrically-operated lawn motor.

Oil (Peanut) Machinery.—Eugene F. Ensen, Jr., Engr., 820 Jefferson Bank Bldg., Birmingham, Ala.—Data and prices on machinery for manufacturing oil and other peanut products.

Painting and Decorating.—Wetzel County Court, S. Myers, Clerk, New Martinsville, W. Va.—Bids until Feb. 1 (change of date) for painting and decorating interior on first floor of courthouse; two coats of paint on wood work outside of entire building; cleaning and putting one coat of varnish on all doors; decorating circuit court room on second floor, with and without change in acoustic design; also submit separate bid for this room; bids may also be submitted for inside painting of county infirmary at Steelton, 3 mi. above New Martinsville; plans and specifications must accompany bids.

Pans (Coagulation, etc.).—N. V. L. E. Tels & Co., H. Hyincius, Agent, Soerabaja, Java.—1000 coagulation pans, 3 coated best enamel, 18 in. long, 9 in. wide, 3½ in. deep with round corners (not square) inside white, outside dark blue enamel; 1000 latex buckets with enamel cover, 3 coated best enamel, 12 liter actual capacity, inside white, outside dark blue enamel; 1000 latex buckets,

and information from E. E. Sands, City Engr.

Paving.—City Commrs., Murfreesboro, Tenn.—Bids until Jan. 19 to improve Main and College Sts.; 22,900 sq. yds. asphaltic concrete pavement; 560 lin. ft. of headers; 3700 cu. yds. excavation; 11,750 lin. ft. of 30-in. combined curb and gutter; 1600 sq. ft. concrete gutter; 600 lin. ft. of 24-in. vitrified clay pipe sewer; 100 lin. ft. of 12-in. vitrified clay pipe sewer; 3500 sq. ft. of concrete sidewalk; 300 lin. ft. of storm-water culvert; 500 cu. yds. of excavation; bids on each section as shown or as whole; plans and specifications from C. B. Howard & Co., Engrs., 150 4th Ave. N., Nashville, Tenn., for \$5; G. B. Giltner, Mayor.

Pile-driving Equipment, etc.—Virginia Machinery & Well Co., 1319 E. Main St., Richmond, Va.—Prices on second-hand pile-driving outfit, steam, including boiler, small derrick for handling 3 tons, steam pump with about 500 G. P. M. capacity against 100 lbs. pressure; also interlocking sheet steel piling.

Piling (Interlocking Steel).—See Pile-driving Equipment, etc.—Virginia Machinery & Well Co.

Pipe.—Baltimore (Md.) Board of Awards, City Hall.—Bids until Jan. 24 to furnish

Dist.; P. J. Walsh, Engr. and Gen. Supt., Charleston.

Road Construction.—Maryland State Roads Commission, Garrett Bldg., Baltimore, Md.—Bids until Jan. 30 to construct 3 sections of State highway and bridge as follows: Contract No. Ce-22—Cecil County, section of road from the State road south of Calvert to Sylmar, Pa., 1.33 mi. long (concrete only). No. K-9—Kent County, Chestertown Rd., from end of new work, near Fairlee, toward Rock Hall, 3.87 mi. long (concrete only). No. D-18—Dorchester County, section of road through East New Market, .73 mi. long (concrete only). No. 0268—Kent and Cecil Counties, bridge over Sassafras River, between Georgetown and Fredericktown, 780 ft. long; timber piles cut at water line and capped with concrete piers and concrete superstructure, also foundation piers for draw span. Blank forms, plans, specifications, etc., for \$1.

Road Construction.—Estill County, J. E. Alexander, County Clerk, Irvine, Ky.—To open bids Feb. 12 to construct 2½ mi. macadam road; H. D. Forbes, Engr., Richmond, Ky.

Roofing (Asphalt Felt).—Jonesboro Supply House, Jonesboro, Tenn.—Quotations, by mail only, on asphalt felt roofing, car lots, landed.

Roofing.—Wolfe Bros., Piney Flats, Tenn. Prices on roofing for new 2-story, 50x75-ft. brick and concrete building.

Saw and Planing Mill Machinery.—American Lumber & Mfg. Co., W. S. Smith, Mgr., Box 518, Johnson City, Tenn.—Prices on circular sawmill and planing mill machinery, new and second-hand; 125 H. P. return-tubular boiler; 100 H. P. Corliss engine; would consider good slide valve.

Saws, etc.—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until Jan. 30 for delivering band saw, sprue-cutting and saw-sharpening machines at navy-yard. Apply for proposals.

Sawmill.—McCorkle Lumber Co., Dante, Va.—Prices on 6-ft. hand mill; about 20-ton Shay or Climax engine; 150 H. P. steel-cased boiler; 100 H. P. stationary engine; belting, shafting, etc.; all second-hand.

Sawmill (Trimmer and Nigger) Machinery.—See Engines (Hoisting), etc.—Forest Lumber Co.

Seating.—J. A. McCord, Pineville, Ky.—Prices on circular pews for \$30,000 church building.

Sewer Construction.—See Paving, etc.—City Commrs., Huntington, W. Va.

Showcases.—See Automobile Supplies, etc.—Metzgar & Hoppe.

Silo.—Dixie M. Hollins, Secy. and County Supt., Clearwater, Fla.—Data and prices on silo.

Steel, Iron, Pipe, Cable, etc.—Panama Canal, Earl I. Brown, General Purchasing Officer, Washington, D. C.—Bids until Jan. 29 to furnish steel, iron, steel pipe, steel cable, wire, poultry setting, nails, rivets, tacks, copper tubing, sheet copper, sheet lead, sheet zinc, garbage and refuse incinerator, motor-generator sets, turnbuckles, taps, pliers, files, breast drills, planes, snatch blocks, valves, distress outfits, rubber boots, manila rope, zinc sulphate, paraffin wax, index books, index cards, bond paper, carbon paper, iron balustrades and gates, marble for toilets, door and window hardware, toilet room hardware, millwork and lumber, etc.; blanks and general information relating to this circular (No. 1113) may be obtained from this office or offices of assistant purchasing agents, 24 State St., New York;

614 Whitney-Central Bldg., New Orleans, and Fort Mason, San Francisco; also from United States Engineers' offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash.

Steel (Sheet).—Concrete Form Co., Syracuse, N. Y.—Names and addresses of manufacturers or jobbers of galvanized and black sheet steel.

Steel Rolling Doors.—A. E. Lewis, Miami, Fla.—Two steel rolling doors 12x12 ft., two 10x10 ft. and one 14x10 ft., for \$25,000 store and shop building.

Structural Steel, etc., for Pier.—Panama Canal, Earl I. Brown, General Purchasing Officer, Washington, D. C.—Bids until Feb. 12 to furnish structural steel and miscellaneous material for Pier No. 6, Christobal, C. Z.; blanks and general information relating to this circular (No. 1114) may be obtained from this office or offices of assistant purchasing agents, 24 State St., New York; 614 Whitney-Central Bldg., New Orleans, and Fort Mason, San Francisco; also from United States Engineers' offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill.; Commercial Club, Tacoma, Wash.

Structural Iron, etc.—Wolfe Bros. & Co., Piney Flats, Tenn.—Prices on structural iron and iron doors.

Tank (Iron).—Easton Machinery Co., Easton, Pa.—Round iron tank, 8000 gals.

Tanks (Iron).—Easton Machinery Co., Box 41, Phillipsburg, N. J.—Three round iron tanks, about 536 ft.

Tank (Steel).—Brookton Gas Light Co., 46 Center St., Boston, Mass.—6000 or 10,000 gal. steel cylindrical tank; preferably 10,000 gals.; not necessarily new, but absolutely tight.

Tanks (Oil).—Granville Supply Co., 140 Syndicate Trust Bldg., St. Louis, Mo.—8000 to 10,000-gal. or larger oil storage tanks; immediate delivery.

Tannin Extract Machinery.—Chas. B. Pife, 622 Central National Bank Bldg., St. Louis, Mo.—Equipment for reducing South American bark to tannin extract.

Textile Products, etc.—Sven Wahlgren & Co., Tegnergarten 36, Stockholm, Sweden.—To represent textile and chemical manufacturers prepared to compete for Swedish trade.

Transmission Machinery.—F. Williamson, Johnson City, Tenn.—Prices on shafting, hangers, count shafts, etc., for furniture factory.

Watchmakers' Tools, etc.—Albert Nelson, 9 Salisbury St., Belfast, Ireland.—Data and prices on watchmakers' tools, watch parts, etc.

Well-drilling Machinery.—Chipola Oil & Development Co., Thomasville, Ga.—Prices on following for oil well drilling in Florida: 10-in., 8-in., 6-in. and 4-in. casing; complete well-drilling outfit for drilling 3200 ft. or more.

Woodworking Machinery.—F. Williamson, Johnson City, Tenn.—Prices on machinery for furniture factory making case goods.

FOR THE BENEFIT OF

ENGINEERS ARCHITECTS MACHINERY DEALERS
CONTRACTORS BANKERS MANUFACTURERS and OTHERS

Who find it profitable to follow up daily the industrial, commercial, railroad and financial development of the South and Southwest as published in this Construction Department,

THE DAILY BULLETIN

is issued every business day in the year

The construction news as published in the Daily Bulletin is invaluable to all business people who want to keep in daily touch with the organization of business enterprises of all kinds throughout the whole South. Unlimited possibilities for the creation of business, for securing contract work, for the sale of machinery and supplies of all kinds for bond buyers and others, are to be found through a close following up of the news in the Daily Bulletin.

The subscription price is \$25.00 a year. Are you a subscriber to it, or an advertiser in it? If not, you are missing an opportunity for profitable business.

The Daily Bulletin is an exceptionally desirable advertising medium.

ADDRESS: MANUFACTURERS RECORD, BALTIMORE, MD.

same as above, but 16 liter actual capacity. (For further details address Manufacturers Record.)

Paving, etc.—City Commrs., Huntington, W. Va.—Bids until Jan. 29 to grade, curb and pave Winters Rd. from Staunton to Merrell Aves. and 11th St. from 11th to 12th Aves.; also construct 10-in. vitrified clay sewer from west side of 12th St.; O. H. Wells, Chrmn. of Streets, Sewers, etc.; A. B. Maupin, City Engr.

Paving.—City of Clarksville, Tex., John R. Webb, City Clerk.—Bids until Jan. 22 to improve Walnut, Main, Broadway, Depot and Donoho Sts. and College Ave. in city limits, South and West Sts. in Railroad addition and First St. in Murrie addition; paving to be concrete or asphaltic concrete on crushed stone base; concrete curbs and combined concrete curbs and gutters; plans, profiles, specifications, etc., on file with City Clerk.

Paving.—City of Houston, Tex., Ben Campbell, Mayor.—Bids until Jan. 19 to construct standard sidewalks on Main St. at Herman Park; specifications and information from E. E. Sands, City Engr.

Paving.—City of Houston, Tex., Ben Campbell, Mayor.—Bids until Jan. 22 to pave Harrisburg Rd. from end of present pavement to Yonkum St. with asphaltic concrete, bitulithic, vertical fiber brick, asphalt filler or Uvalde rock asphalt; specifications

400,000 ft. special duct pipe, including bends; for specifications and further information address Raleigh C. Thomas, Ch. Engr. Electrical Commission, City Hall Annex No. 1.

Pipe Organ.—J. A. McCord, Pineville, Ky.—Prices on pipe organ for \$20,000 church building.

Plumbing Supplies.—See Heating Equipment.—Lillian Knitting Mills Co.

Potash and Cement Production.—J. Q. Barker, care of Barker Lumber Co., American National Bank Bldg., Knoxville, Tenn.—Data on process of making cement from feldspar and limestone, saving the potash.

Presses (Baling).—Georgia-Carolina Utilities Co., Whitaker and Harris Sts., Savannah, Ga.—Addresses of manufacturers or jobbers of paper-baling presses.

Pulp (Wood) Machinery.—J. F. Singer, Adams, Tenn.—Addresses of manufacturers of machinery for making wood pulp; wants machinery to reduce tobacco stalks and stems for passage through 8-mesh-to-the-in. sieve.

Pumps (Boiler).—See Mining Machinery, etc.—Fernwood Mining Co.

Rails.—Pennsylvania Equipment Co., Philadelphia, Pa.—Several carloads 70 to 90-lb. section relaying rails with fastenings.

Road Construction.—Kanawha County Court, Charleston, W. Va.—To receive bids Feb. 14 on 3.2 mi. hard surface road, Loudon

RAILROAD CONSTRUCTION

RAILWAYS

Ark., Fort Smith.—E. G. Gossett of Jasper, Ark., and associates are reported interested in plans for the construction of the "St. Louis Air Line R. R." designed to connect the lead and zinc fields of Arkansas and Missouri with Fort Smith. About 150 mi. of line are proposed. He is Pres. of the Ozark Forest Locating & Realty Co.

Ark., Rogers.—Ozark & Arkansas Midland Railroad Co., capital \$750,000, and recently chartered has organized with G. G. Wright, Jr., Pres.; Dr. George M. Love, First V. P.; Lee M. Harris, Second V. P., all of Rogers; R. F. Henderson, Secy., and L. B. Smith, Treas., both of Dallas, Tex. These with G. G. Wright, Sr., and C. M. Miller, of Dallas, compose the board of directors. Construction is to begin soon from Rogers to Kingston, Ark., 40 mi.

Ark., Yellville.—At the annual meeting of the Yellville, Rush & Mineral Belt Railway

Co. it was decided to change the gauge from narrow to standard and the charter will be amended accordingly. About 90 per cent. of grading has been done and 75 per cent. of bridges constructed. J. C. Shepherd of Rush, Ark., is Pres.; J. C. Floyd, V. P.; W. E. Layton, Treas., and H. E. Cochran, Secy.; all at Yellville.

D. C., Washington.—Contract is reported closed with the Southern Finance & Construction Co. of Nashville, Tenn., to build an electric railway from Washington to Gettysburg, Pa., about 75 mi. John K. Parsons of Wilmington, Del., is Pres., and R. B. Herzer of Nashville, Secy.

Fla., Sarasota.—Plans are under consideration looking to the construction of a railroad from Sarasota to Tampa, Fla., about 80 mi. J. H. Lord, Pres. of the Board of Trade, Sarasota, may give information.

Ky., Lexington.—Kentucky Traction & Terminal Co. contemplates spending \$200,000

this year for improvements and extensions. F. W. Bacon is V.-P. and Gen. Mgr.

Ky., Whitesburg.—Louisville & Nashville Railroad, it is reported, will build branch up Colly Creek to coal mines. H. C. Williams, Louisville, Ky., is Chief Engr. of Constr.

Md., Baltimore.—Baltimore & Ohio Railroad has acquired land at Curtis Bay for its contemplated extension to Marley Neck, below Baltimore. Line will be several miles long to industrial plants. R. N. Beglen, Baltimore, is Chief Engr.

Miss., Hattiesburg.—Tallahala Lumber Co. of Orn, Miss., is building a railroad from Hattiesburg northeast to Runnelstown and other points in Perry county, about 17 mi.

N. C., Shulls Mills.—Construction of an extension of the Linville River Railway from Shulls Mills to Boone, N. C., 7 mi. is proposed and it is contemplated to call an election to vote on \$35,000 of Boone Township bonds to aid construction. Geo. W. Hardin, Johnson City, Tenn., is Supt.

Okla., Muskogee.—Midland Valley R. R. denies recent press report that it is surveying for the construction of an extension from Muskogee to Drumright and Cushing, Okla.

S. C., Anderson.—M. N. Garrett, chief engineer of the Atlanta & Anderson Electric Ry. Co., and a corps of engineers are making survey between Anderson and the Savannah River for the proposed construction. J. L. Murphy, Gas & Electric Bldg., Atlanta, is promoter.

Tenn., Chattanooga.—Nashville, Chattanooga & St. Louis Railway proposes to build an extension of the Tracy City branch to coal mines, 12 mi. H. McDonald, Nashville, Tenn., is Chief Engr.

Tenn., Knoxville.—Southern Railway has bought another tract of land (about 80 acres), near Caswell Station, which, it is said, will be used in the construction of a belt line. W. H. Wells, Washington, D. C., is Chief Engr. of Constr.

Tenn., Nashville.—Southern Finance & Construction Co. of Nashville, is reported contemplating construction of two electric railways out of Nashville. John K. Parsons of Wilmington, Del., is Pres., and R. B. Herzer of Nashville, Secy.

Tex., Midland.—Construction of the Midland & Northwestern Railway from Midland to Seminole, Tex., 65 mi., is to be resumed this month. T. J. O'Donnell is Pres. and Gen. Mgr., and T. W. Thaxter, Ch. Engr., both of Midland.

Tex., Roby.—Roby & Northern Railway will let contract in April to build its projected extension from North Roby to Sweetwater, Tex., 23 mi., including 4 bridges of steel and concrete. L. C. Eastland of Hillsboro, Tex., is V.-P. and Gen. Mgr.

Va., Big Stone Gap.—Surveys reported made for the proposed Harlan-Clinchport Railroad from Harlan, Ky. to Clinchport,

Va., about 40 mi. W. G. Coutts, Big Stone Gap is Chief Engr.

W. Va., Richwood.—Cherry River Boom & Lumber Co. has let contract to Joseph Fucy and Dominick Fucy of Weston, W. Va., to build its proposed railroad from Camden-on-Gauley to Williams River, 15 mi.

STREET RAILWAYS

Ala., Montgomery.—Montgomery Light & Traction Co. may build an extension from Pickett Springs to Wetumpka, Ala., 9 mi. Ray Rushton is Pres.

Ga., Valdosta.—Valdosta Street Railway, it is reported, will build 3 mi. line. T. J. Christie is Gen. Mgr.

S. C., Union.—Franchise has been granted to E. F. Kelly and others to build and operate a street railway about 3½ mi. long. Storage battery cars will be used. Address R. A. Easterling.

Book Reviews.

Mediation, Investigation and Arbitration in Industrial Disputes. By George E. Barnett, Professor of Statistics in Johns Hopkins University, and David A. McCabe, Assistant Professor of Economics in Princeton University. Published by D. Appleton & Co., New York. Clothbound. 210 pages. \$1.25 net.

A report of June, 1915, made by the authors to the Commission on Industrial Relations, forms the basis of the book, with the matter corrected or revised to date. The authors advance tentative plans for national arbitration by commission, after having shown the inadequacies of the present methods of settling industrial disputes. Full appendices are given containing opinions and acts on the matters discussed.

What About Florida? By L. H. Cammack. Published by Laird & Lee, Inc., Chicago. 175 pages. Clothbound \$1. Paper bound 50 cents. Special prices in quantities.

To act as a sign post, pointing out in exact, unbiased manner the road to Florida, indicating its superior points of vantage and putting bars, so to speak, across the road where there is a chance for the thoughtless to come to distress—that is the object of this book. The author has spent many years in Florida investigating conditions, the result of which he here attempts to set forth in uncolored style for the guidance of prospective investors, homeseekers and tourists.

Nashville Office Opened.

The Vincennes Bridge Company, Vincennes, Ind., builder of bridges that have been erected in all parts of the country, has as its representative in Nashville, Tenn., Thomas H. Robinson, 1112 Ordway street. Mr. Robinson has had large experience in bridge work and is entirely qualified for the duties devolving upon him in the territory in which he is placed.

Satisfactory Concrete Mixing.

Noteworthy commendation of the service of four No. 610 Northwestern concrete mixers, 10 cubic feet capacity each, manufactured by the Northwestern Steel and Iron Works, Eau Claire, Wis., and purchased by the United States Government last May for work at Colon, was made by the recent order of the Government for duplicates of these machines for use at the other end of the Canal zone.

To Manufacture Tank Cars.

The plant and equipment of the Allegheny Foundry Company at Warren, Pa., have been purchased by the newly-organized Allegheny Steel Tank Car Company, which intends an extensive production of steel tank cars. The new company is capitalized at \$100,000. Its officers are: H. D. Kopf, president; Joseph A. Schofield, vice-president; George L. Craft, secretary, and A. J. Hazeltine, treasurer.

Grate Patent Secured.

The Codd Tank & Specialty Co., 402½-06 W. Camden St., Baltimore, has secured a patent on its special Codd grate, claimed to give better results at a saving of coal. It is also claimed that because of better combustion with this grate an inferior grade of coal can be used satisfactorily. It is said that the teeth are so arranged as to permit the ashes to clear by gravity, thus producing as clean a fire as with shaking and with better combustion.

Scale Company Reorganized.

Completion of the reorganization of the Federal Scale & Supply Co., Russell Ave. and De Kalb St., St. Louis, Mo., has been effected and the company states itself to be in a position better than ever to look after scale wants. As manufacturer of Federal wagons and floor scales, and Western representative of the American Kron Scale Co., 424 53d St., New York, manufacturer of Kron automatic springless scales of all metal construction, the company has a wide range in scale work.

Boiler Code Progressing.

Official announcement has been made by the Ohio Board of Boiler Rules, through the Industrial Commission of Ohio, that the American Society of Civil Engineers' boiler code will replace the Ohio code, effective April 1, 1917, as stated in a recent bulletin from the American Uniform Boiler Law Society, which further states good prospects for the code's adoption in Texas, Michigan, Minnesota, Kentucky, Illinois, Missouri, Connecticut, Rhode Island, New Jersey, Virginia and Tennessee.

Railway Safety Signal.

To manufacture a lately developed automatic railway semaphore signalling system the Hudson Railway Signal Co., Inc., has been organized, with offices at 16½ N. 9th St., Richmond, Va. Among the merits claimed for the Hudson Signal are its ability to call attention to danger by sound as well as by sight signal and to change the signal immediately after, instead of before, the passing of the train, thus making the signal plain to all the train crew, rather than to just the engineer and so, it is claimed, lessening the chance of mistake, and consequent disaster.

Contract for New Firm.

The new contracting firm of Clack & Wright, Jacksonville, Fla., formed by James M. Clack, senior member of the former contracting firm of James & Clack, Vero, Fla., and A. L. Wright of Jacksonville, has been awarded the contract for drainage in Baldwin drainage district, Duval county, Fla., involving the excavation of approximately 1,500,000 cubic yards of earth and a small amount of bridge and concrete spillway work. As most of the ditches are small, they will be excavated by small fuel-oil engines, of which five are to be used, with the expectation of completing the job in 15 months.

Trussed Concrete Steel Convention.

The yearly convention of sales forces of the Trussed Concrete Steel Co., Youngstown, Ohio, will be held at the company's plant in Youngstown from January 23 to 26, inclu-

sive. All of the representatives of the company throughout the United States, as well as Canada and a number of foreign countries, will be present. The Southern section of the United States being represented by C. C. Whitaker, sales representative of the company, with offices at Atlanta, Ga. The convention will cover general sales methods and modern methods of construction, general summary of materials being manufactured, and such other materials as will be added to the products manufactured by this company in the coming year.

Consulting Engineer Appointed.

James C. Travilla of St. Louis, Mo., has become connected with the Dunn Wire-Cut Lug Brick Co. of Conneaut, O., as consulting engineer. In making the announcement of Mr. Travilla's appointment, the company says that he is of high standing and integrity in his profession and is a graduate in the civil engineering course of the University of Pennsylvania, where he also took a post-graduate course. During his career he has been in the engineering department of the Missouri Pacific Railway at St. Louis, and was afterwards assistant engineer in the Water Department of that city, then for several years in charge of the estimating and drafting division of the Street Department, then superintendent of that department, and finally Street Commissioner under both a Democrat and a Republican city administration. He resigned in 1913, and from that time until 1916 he supervised and directed the expenditure of \$1,000,000 for good roads in Tarrant county, Texas, and he also directed the conduct of good road work from proceeds of bond issues in other counties of that State. Last March he was appointed consulting and associate engineer by the County Court of St. Louis County, Missouri, to build a \$3,000,000 road system, but the work was stopped by a ruling of the Supreme Court, declaring certain road statutes invalid, and on December 1 last he became connected with the Dunn Company.

Huge Value of Rubber Industries at Akron, O.

The magnitude of the rubber manufacturing industry at Akron, Ohio, which is sometimes called the "Rubber Capital of the World" is well evidenced by the recent valuation of Akron Industries for taxation by the auditing department of Summit county. It also indicates why the population of Akron has increased approximately 300 per cent. in the last 20 years. It was lately published there that the total valuation of all industries at Akron and elsewhere in Summit county is \$43,596,440, and of this aggregate the taxable valuation of the great plant of the B. F. Goodrich Company amounts to almost one-half. The following list of values in the tax assessments reveals the importance of the rubber industries: B. F. Goodrich Co., \$20,382,839; Goodyear Tire & Rubber Co., \$7,631,780; Firestone Tire & Rubber Co., \$4,364,590; Kelly Springfield Tire Co., \$1,371,530; Miller Rubber Co., \$1,121,910; Portage Rubber Co., \$331,880; Swinehart Rubber Co., \$459,270. Thus a total of \$36,220,580 of assessable value is credited to the rubber manufacturing industry alone. The Diamond Match Co. and the Quaker Oats Co. are among the many other industrial plants at Akron. The Goodrich plant was established 47 years ago by Dr. B. F. Goodrich as a small concern and from its location there has grown the prominence that the city now enjoys in the manufacture of rubber products.

[Continued on page 80.]

INDUSTRIAL NEWS OF INTEREST

Change of Address.

Allen-Scales Engineering Co., Nashville, Tenn., formerly in the Stahlman Bldg., has moved to 209 Church St.

Furnishing Dressed Lumber.

J. W. Jackson, Sumter, S. C., has installed a planing mill and is prepared to furnish the trade with a general line of dressed lumber.

Branch Manager Appointed.

William M. Bastable, manager of the pump department of Fairbanks, Morse & Co., New York, has been appointed manager of the Baltimore branch of the company at 17 South Hanover street.

White Co. Adds Department.

An additional department of the J. G. White Management Corp., has been organized to take care of sugar properties, the new department being in the charge of A. L. Mathews, who has been elected a vice-president of the company.

Heat Radiating Device.

W. G. Powell, Arcadia, Fla., has developed a metal hood for oil and gas stoves, braziers, radiators, etc., which he claims throws out the heat in three-fold volume with the blast of an open fire. Manufacturing and distributing right on the device are for sale.

Branch Office Opened.

Under the management of J. Donald Carr a branch office has been opened by the Alvey-Ferguson Co., Inc., Cincinnati, O., at 917

Hennen Bldg., New Orleans, La., where the complete line of A-F conveying machinery will be handled. The line is interestingly shown in a small pamphlet issued by the company.

Buys Power Hammer Business.

The United Hammer Co., 141 Milk St., Boston, Mass., announces that it has bought the power hammer business of E. & T. Fairbanks & Co., St. Johnsbury, Vt., and is prepared to furnish complete Fairbanks Power Hammers of all sizes, for prompt shipment; also repair parts for these hammers now in use.

Enlarged Branch Office.

Increased business has forced the Columbian Rope Co., Auburn, N. Y., to provide larger quarters for its New York branch, George B. Granger, manager. Remodelling is in progress on the new building at 31-35 Burling Slip, and is expected to be completed in the early spring, when about four times the present floor space at 62 South St. will be afforded.

Plant Expansion.

That the Edwin B. Stimpson Co. is conducted on sound and progressive principles the company considers is evidenced by its steady growth from a small beginning in 1852. The plant produces a large variety of wire and sheet metal supplies of brass, copper, etc., carrying in stock, to facilitate shipments, a large stock of rivets, eyelets, grommets and washers.

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

FINANCIAL CORPORATIONS

Fla., Lee.—Lee State Bank Incptd.; capital \$15,000; A. Livingston, Pres.; C. L. Morrow, V.-P., and J. W. Wadsworth, Cash. Business is to begin Jan. 25.

Fla., Palatka.—Bailey Realty Corporation, capital \$50,000, is organized with G. Loper Bailey, Pres.; S. C. Bailey, Secy.; R. W. Bailey, Treas.

Ga., Nashville.—First Bank of Nashville has made application for charter; capital

Capital and Surplus
\$4,000,000



Total Resources
\$38,000,000

The Largest National Bank in the South

Liberal Accommodations to Manufacturing Corporations

**MERCHANTS-MECHANICS
FIRST NATIONAL BANK
OF BALTIMORE**

The National Exchange Bank OF BALTIMORE, MD.

Hopkins Place, German and Liberty Sts.
Capital \$1,500,000.
March 30, 1915, Surplus and Profits,
\$350,000.00.

OFFICERS.
WALDO NEWCOMER, President.
SUMMERFIELD BALDWIN, Vice-Pres.
R. VINTON LANSDALE, Cashier.
C. G. MORGAN, Asst. Cashier.
Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals Invited.

Maryland Trust Company

BALTIMORE

Capital \$1,000,000

TRANSACTS A GENERAL TRUST AND
BANKING BUSINESS

Correspondence and interviews
invited

The Palmetto National Bank

OF COLUMBIA

CAPITAL \$500,000.00
Surplus and Undivided Profits \$250,000.00
COLUMBIA, S. C.

WE BUY BONDS CITY, COUNTY, SCHOOL DISTRICT
CORRESPONDENCE INVITED FROM
CONTRACTORS AND OFFICIALS
SIDNEY SPITZER & CO., Spitzer Building, TOLEDO, OHIO
NEW YORK CHICAGO CINCINNATI

BANK STATIONERY

This month we are
making a special
run on

BANK ENVELOPES

Send for prices.

Young & Selden Co.

BANK STATIONERS BALTIMORE, MD.

Lithographing, Printing, Envelopes
Blank Book Makers, Book Binding
Letter Heads, Office Supplies
Steel Die Work

6%

First Mortgage Bonds

Earnings about five
times amount required
for interest charges.
Listed on the New York
Stock Exchange.

Price 101 and accrued
interest

Send for descriptive
circular No. AG-198.

A. B. Leach & Co.

Investment Securities
62 Cedar St., New York
Chicago Philadelphia Buffalo
Boston Baltimore

CORPORATION FINANCING

HOBGEN & CO.

508-9 Munsey Building
Municipal Loans Baltimore, Md.

THE TILLOTSON & WOLCOTT CO.

CLEVELAND, OHIO

**BUYERS OF COUNTY
SCHOOL AND DRAINAGE
BONDS**
Correspondence Solicited

POWELL, GARARD & CO.

39 S. La Salle Street
CHICAGO, ILL.

We Buy Southern Municipal Bonds
(County, City, School, Road and Drainage District).

JOHN NUVEEN & CO.

First National Bank Building, CHICAGO

We purchase SCHOOL, COUNTY and
MUNICIPAL BONDS. Southern Municipal
Bonds a Specialty.

Write us if you have bonds for sale.

First National Bank

RICHMOND, VIRGINIA

Capital and Surplus \$3,000,000
JNO. B. PURCELL, President.
JNO. M. MILLER, JR., Vice-Pres.
W. M. ADDISON, Cashier.

THE BANK OF ALABAMA

ENSLEY, ALABAMA

R. A. TERRELL - President
J. W. MINOR - Vice-President
FOSTER HAMILTON - Cashier
We Solicit Your Business

MUNICIPAL BONDS

City, County, Road and Drainage

Bought from Municipalities or from
CONTRACTORS

WALTER E. ORTHWEIN

Established 1898. 229 N. 4th St., St. Louis, Mo.

Municipal Bonds

BOUGHT

from Contractors and Municipalities

STACY & BRAUN

Second National Bank Bldg., TOLEDO, O.

WE BUY Municipal Bonds

ISSUED BY

Counties, Cities, School Districts
and Road Districts.

WRITE US

CUMMINGS, PRUDDEN & CO.

Second National Bank Building

TOLEDO, OHIO

\$25,000; organizers, Jos. A. Alexander, W. R. Little, C. S. Farham and others.

Ga., Rome.—Floyd County Bank chartered; capital \$50,000; H. E. Kelley, Prest.; G. C. Byars, Cash. Business began Jan. 8.

Ga., Vienna.—American Banking Corporation has made application for charter; capital \$75,000; organizers, F. E. Gregory, Florie S. Atkins, J. A. Peary, R. L. Simmons and others.

Ga., West Point.—A savings bank with \$25,000 capital is being organized by J. A. Avery, G. S. Cobb, R. C. Freeman and others.

La., Shreveport.—Caddo Underwriters, Incptd., capital \$5000 with privilege of increasing to \$25,000 is organized with W. A. Mabry, Prest.; E. W. Hamiter, V.-P.; Mrs. M. L. Smith, Secy.-Treas.

Md., Sparrows Point.—Bank of Sparrows Point Incptd., capital \$100,000, surplus \$25,000, will begin business about Apr. 1; incorporators, Van Lear Black, James Fenhagen, George Weems Williams, John S. Gibbs and Albert D. Graham, Baltimore.

Md., Hamilton.—Hamilton Bank is organized with B. K. Purdum, Prest.; John H. Tames, V.-P.; Frederick J. Kunkel, Secy., and John S. Biddison, Counsel. Business is expected to begin about the middle of March.

S. C., Elliott.—Bank of Elliott is chartered; capital \$10,000; J. H. Skinner, Prest.; W. W. Player, V.-P. Business began Jan. 10.

S. C., Greenville.—Furman Investment Co., chartered, capital \$30,000, began business Jan. 2. Alester G. Furman, Prest. and Treas.; H. J. Haynsworth, V.-P.; Alester G. Furman, Jr., Secy.-Asst. Treas.

S. C., Greenville.—Greenville Morris Plan Co., capital \$25,000, surplus \$2500 began business Jan. 2. Alester G. Furman, Prest.; W. C. Beacham, V.-P.; Alester G. Furman, Jr., Cash.

Tenn., Johnson City.—Home Building and Loan Assn., capital \$50,000, is incorporated by George L. McKay, I. D. Worley, H. O. Bunn, Charles L. Herndon, B. G. Nunnally, M. F. Angle and A. F. Hoss.

Tenn., Murfreesboro.—Citizens Bank & Trust Co., capital \$15,000, organized by G. F. Clements and others.

Tex., Alvin.—Farmers' State Bank, capital \$25,000, is authorized to do business; W. P. Davis, Prest.; B. T. Higginbotham, Cash.

Tex., Colorado.—A State bank is being organized with the following directors: J. H. Bullock, Prest.; W. P. Leslie, A. J. Smith and W. E. Watson.

Tex., Elmo.—First Guaranty State Bank, capital \$10,000, is authorized to do business; George W. Riddle, Dallas, Prest.; Earl Wheeler, Cash.

Tex., El Paso.—The Security Trust and Savings Bank and the Commercial National Bank have merged under the name of the Security Bank, and has opened for business in the Security Bldg., in offices formerly occupied by the Commercial National Bank; capital \$200,000.

Tex., El Paso.—The Security Mortgage & Cattle Loan Co., capital \$100,000, is organized with John T. Muir, Prest.; C. Henderson,

V.-P. and Chrmn. of the board; E. L. Farrar, V.-P., and J. H. Henderson, Asst. Cash. Tex., San Antonio.—Mutual Abstract, Loan & Investment Co., capital \$5000, is incptd. by Allan Broom, E. S. Fuller, George W. Montgomery and G. H. Miller.

Va., Norfolk.—Chesapeake Investment Corp., capital \$1000 to \$10,000, is organized with J. L. Rohleder, Prest.; Martin Campbell, Secy.

Va., Roanoke.—Roanoke Mutual Building and Loan Assn. is organized with Chas. D. Fox, Prest.; James P. Woods, V.-P.; F. M. Mahood, Secy.-Treas., and James A. Bear, Atty.

Va., Virginia.—First National Bank has made application for charter; capital \$25,000.

W. Va., Charleston.—Farmers and Miners' Bank, capital \$50,000, has organized with Col. Samuel E. Bowen, Prest.; Judge R. G. Linn, first V.-P.; L. V. Koontz, second V.-P. Cashier not yet elected.

W. Va., Wheeling.—Wheeling Morris Plan Bank is being organized with \$100,000 capital. Among those reported interested are G. O. Nagle, C. A. Bowers, Nelson C. Hubbard, W. B. Irvine, Robert Dalzell, B. W. Peterson and Wm. E. Stone.

NEW SECURITIES

Ala., Florence.—(School).—Election is soon to be called to vote on \$40,000 of bonds. Address Board of Education.

Ark., Perryville.—(Drainage).—Bonds of Cypress Drainage Dist., Perry and Conway Counties, which will amount to between \$40,000 and \$50,000, have been purchased at 101 by Herman Duhme, Jr., of St. Louis, Mo.

Ark., Pine Bluff.—Special dispatch to the Manufacturers Record says Judge James Gould has been appointed fiscal agent by the City Council to negotiate loan for \$150,000. W. A. Lee is City Clerk.

Fla., Clearwater.—(Bridge).—\$10,000 of bonds have been purchased by John Nuveen & Co., Chicago.

Fla., Clearwater.—(School).—Election is to be held Feb. 17 to vote on \$3500 Ozone School Dist., Pinellas County, bonds. Dixie M. Hollins is County Supt. of Public Schools.

Fla., Fort Myers.—(Road).—\$150,000 of bonds Special Road and Bridge Dist. No. 6 Lee County, have been sold at par, accrued interest and \$6000 premium. Address County Commrs., H. A. Henry, Clerk.

Fla., Ormond.—(Municipal Improvement).—\$35,000 of 6 per cent. 30-year \$1000 denomination bonds have been purchased by the Merchants' Bank, Daytona.

Fla., Plant City.—(Water, Refunding).—\$15,000 water-works and \$25,000 refunding 5 per cent. 20-year bonds defeated. Another attempt to issue bonds will be made soon. C. B. Root is Mayor.

Fla., West Palm Beach.—(School).—\$8000 of 6 per cent. bonds Palm Beach County Special Tax School Dist. No. 9 have been purchased at \$876.50 by the F. L. Fuller Co., Cleveland.

Ga., Fitzgerald.—(School).—Old issue for schools, amounting to \$23,000 of 5 per cent. 30-year bonds, resold to R. N. Berrien, Jr., Atlanta, defect having been overcome. (See Manufacturers Record, Nov. 30.) Drew W. Paulk is Mayor.

Ga., Macon.—(Courthouse, Road, School).—Comms. of Bibb county are planning to hold an election to vote on \$1,000,000 of bonds.

Ky., Booneville.—(Light).—\$10,000 of bonds are voted. Address The Mayor.

La., Alexandria.—(School).—Bids will be received until noon Jan. 30 by D. B. Showalter, Supt. of School Dist. of Rapides Parish for \$30,000 5 per cent bonds.

La., Amite.—(Road).—Bids will be received until Jan. 22 by H. P. Mitchell, Prest. Police Jury Tangipahoa Parish, for \$100,000 of bonds.

La., Baton Rouge.—(Road).—Bids will be received until Feb. 15 by R. T. Gibbens, Prest. Police Jury East Baton Rouge Parish (P. O. Baker), for \$130,000 of 5 per cent. 30-year Road Dist. No. 2 road-construction bonds, Series C; denomination \$1000; maturity Dec. 31, 1917 to 1946.

La., Crowley.—(Road).—Bids will be opened Feb. 24 for \$400,000 of 5 per cent. \$1000 denomination bonds Road Dist. No. 1, Acadia Parish, voted Dec. 30; dated Jan. 2, 1917; maturity 1918 to 1947, inclusive. D. W. Thibodaux is Secy. Police Jury.

La., Donaldsonville.—(Levee).—\$250,000 of 5 per cent. \$500 and \$1000 denomination bonds Lafourche Basin Levee Dist. have been purchased at par, \$1877 premium, plus 3 per cent. on deposits, by the Whitney Central Trust and Savings Bank, New Orleans.

La., Houma.—(School).—\$10,000 of 5 per

Incorporate Under DELAWARE LAWS

Complete information on application.

Delaware Registration Trust Co.

900 Market St. Wilmington, Del.

J. Ernest Smith, President and General Counsel.
Chas. Warner Smith, Vice-President.
Harry W. Davis, Secretary and Treasurer.
Charles B. Bishop, Assistant Secretary.

We Buy Bonds

City, County, School and Road, from

Municipalities and Contractors.

WRITE

THE PROVIDENT SAVINGS BANK

& TRUST CO. OHIO

CINCINNATI

SPARTANBURG, S. C.

DEALERS

FOR SALE

Timber, Coal, Iron, Ranch

and Other Properties.

Southern States. West Indies. Mexico.

GEO. B. EDWARDS

(Broker.)

Fribane Building. NEW YORK, N. Y.

Confidential Negotiations. Investigations.

Settlements and Purchases of Property.

cent. bonds Sub Dist. No. 1, Terrebonne Parish, have been purchased at 101.13 and interest by the People's Bank & Trust Co., Houma.

La., Marksville—(Road Construction).—Bids will be received until 1 P. M. Feb. 1 by C. J. Pope, Prest. Police Jury, for \$100,000 of 5 per cent. Tenth Ward Road Dist. No. 11, Avoyelles Parish, bonds; dated Aug. 1, 1916.

La., Montegut—(School).—\$10,000 of bonds of Subdistrict No. 1 of School Dist. No. 1, Terrebonne Parish, have been purchased at par, accrued interest and premium of \$113 by the People's Bank & Trust Co., Houma.

La., New Orleans—(Paving Certificates).—Bids will be received until 11 A. M. Feb. 5 by A. G. Ricks, Commr. of Public Finances, for \$750,000 paving certificates.

La., Rayne—(Drainage).—Bids will be received until 3 P. M. Feb. 3 for \$100,000 of 5 per cent. 1-27-year bonds of First Ward Drainage Dist. L. J. Chappliss is Secy. and Wallace Dupont, Prest. Further particulars will be found in the advertising columns.

La., Bunkie—(Road).—On Feb. 1 Board of Suprvs of Tenth Ward Road Dist., No. 11, Avoyelles Parish, will offer for sale \$100,000 of 5 per cent. bonds. C. J. Pope is Prest. Board of Suprvs. of said Dist.

La., St. Joseph—(Refunding).—Bids will be received until noon Feb. 13 for \$16,000 of 5 per cent. 29-30-year \$100 denomination Tensas Parish bonds, dated Feb. 1, 1917. E. F. Newell is Clerk Police Jury. Address F. H. Curry, E. D. Coleman and E. F. Newell, Committee. Further particulars will be found in the advertising columns.

Miss., Brandon—(Road).—\$50,000 of 6 per cent. Rankin County bonds have been purchased at par and interest by the Rankin County Bank, Brandon.

Miss., Gulfport—(Beach Protection).—\$300,000 of bonds have been purchased by Sidney Spitzer & Co., Cleveland, O.

Miss., Hattiesburg—(Road).—Election is to be held in Forrest County Jan. 30 to vote on question of issuing bonds. Address Bd. of Suprvs.

Miss., Marks—(Road).—Bids will be received until noon Feb. 5 by W. A. Cole, Clerk Board of Suprvs. Quitman County, for \$150,000 bonds.

Miss., Monticello—(Road).—\$50,000 of 5 1/2 per cent. 25-year \$500 denomination bonds Dist. No. 1, Lawrence County, have been purchased at par and interest by the Capital National Bank, Jackson, Miss.

Mo., Bowling Green—(Courthouse).—\$100,000 of 4 per cent. 20-year \$500 denomination Pike County bonds, dated Feb. 1, 1917, and maturing 1937, have been purchased at \$100,000 by the Farmers' Bank, Bowling Green.

Mo., Stanberry—(Street).—\$11,500 of 5 per cent. bonds have been purchased by the Little & Hays Investment Co., St. Louis; denominations \$500 and \$1000; dated July 1, 1916.

N. C., Asheville—(School).—\$35,000 of 5 per cent. 20-year bonds Black Mountain School Dist., Buncombe County, have been purchased by Chas. N. Malone & Co., Asheville.

N. C., Bladenboro—(School).—\$25,000 of bonds have been purchased by Sidney Spitzer Co., Toledo, O.

N. C., Boone—(Railroad Aid).—Election is soon to be held in Boone Township to vote on railroad aid bonds. Address Town Commissioners.

N. C., Clinton—(School).—At noon Feb. 5 Board of Education of Sampson County will offer for sale certain 5 per cent. 30-year bonds of Dist. No. 1, Honeycutts Township, known as Salemburg High School Dist.

N. C., Gastonia—(Bridge).—Bids will be received until noon Feb. 16 for \$100,000 of 5 per cent. Gaston County bridge bonds, payable \$4000 fifth year and annually thereafter until issue be liquidated. O. B. Carpenter is Clerk County Commrs. Further particulars will be found in the advertising columns.

N. C., Jackson—(Road).—Bids will be received until 10 A. M. Feb. 15 for \$8000 of

Jackson Township road bonds. G. A. Moore is Secy. Board of County Commrs. Further particulars will be found in the advertising columns.

N. C., Madison—(City Bonds).—Bids will be received until Feb. 15 for \$8000 of 6 per cent. 30-year \$1000 denomination bonds, dated 1908. Address T. D. Meador. Further particulars will be found in the advertising columns.

N. C., Nashville—(School).—Election is to be held in White School Dist. No. 2, Bailey Township, Nash County, to vote on \$3000 of bonds. J. B. Boddie is Clerk Board of County Commrs.

N. C., Rockingham—(School).—\$12,000 Hoffman Dist., Richmond County, bonds are to be issued. L. J. Bell is Supt. of Richmond County Schools.

N. C., Smithfield—(Road).—Bids will be received until noon Feb. 5 for \$25,000 of 5 per cent. 30-year Johnston County bonds. Sam T. Honeycutt is Clerk Board County Commrs. Further particulars will be found in the advertising columns.

N. C., Spring Hope—(Water, Sewer, Street, Light).—Application is to be made to the Legislature asking authority to call an election in near future to vote on \$50,000 water, sewer, street improvement and electric-light improvement bonds. Address The Mayor.

N. C., Statesville—(Drainage).—Bonds for Snow Creek Drainage Dist., Alexander and Iredell counties, are to be issued and sold. H. R. Cowles is Secy. of Dist.

N. C., Winston-Salem—(Improvement Bonds).—\$80,000 municipal improvement bonds are to be issued. O. B. Eaton is Mayor.

N. C., Yanceyville—(Courthouse, Jail).—\$80,000 of 5 per cent. Caswell County bonds have been purchased by A. J. Hood & Co., Detroit.

Okla., Ardmore—(Fire Dept., Park Improvement).—Election is to be held Jan. 30 to vote on \$40,000 fire-department and \$15,000 Whittington Park Improvement 5 per cent. 25-year bonds. G. H. Bruce is City Clerk.

Okla., Bartlesville—(School).—Bids will be received until 8 P. M., Jan. 24, by F. E. Thurman, Clerk Board of Education, for \$100,000 of 5 per cent. 25-year bonds.

Okla., Bartlesville—(School).—Bids will be received until 5 P. M., Jan. 24 by F. E. Thurman, Clerk Board of Education, for \$100,000 of 5 per cent. \$1000 denomination bonds, dated Jan. 2, 1917, and due Jan. 2, 1942.

Okla., Clinton—(Road).—Election ordered for Jan. 15 to vote on \$800,000 of Custer County bonds has been called off. H. C. Stops is Chrmn. Board County Commrs.

Okla., Drumright—(Water, Fire, City Hall, Storm Sewer).—\$43,000 water, \$16,000 fire department, \$16,000 city hall and \$25,000 storm sewer bonds are voted. Address The Mayor.

Okla., Dustin—(Road).—Election is to be held in Dustin Township Jan. 25 to vote on \$43,000 of 6 per cent. 25-year bonds. Address Town Commrs.

Okla., Kendall, P. O. Tulsa—(Water, Sewer, Park, Fire Station, etc.).—\$125,000 of 5 per cent. \$1000 denomination bonds have been purchased at \$1780 premium by G. W. and J. E. Piersol of Oklahoma City.

Okla., New Wilcox—(Sewer, Water, Light, City Hall).—\$30,000 sewer, \$3000 water-works, \$7000 light extension and \$7500 city hall 6 per cent. 20-year bonds are voted. Address The Mayor.

Okla., Oklahoma City—(School).—Plans are being made to issue \$400,000 of bonds for Junior High School. Address Board of Education.

Okla., Okmulgee—(Road).—No sale was made Dec. 5 of the \$800,000 of 5 per cent. 25-year Okmulgee County road-construction bonds offered on that date, and the Board of County Commrs., Grace E. Morton, County Clerk, will again offer them for sale at 1 P. M. Jan. 18.

Okla., Sapulpa—(Fire Apparatus and

We Finance

Electric Light, Power and Street Railway Enterprises
with Records of Established Earnings

We Offer

Bankers and Investment Dealers
Proven Public Utility Securities
Correspondence Solicited

Electric Bond and Share Company

(Paid-up Capital and Surplus, \$19,000,000)

71 Broadway

New York

We Buy

City, County
School and Drainage

BONDS

FROM MUNICIPALITIES OR CONTRACTORS

We are in position to pay HIGHEST PRICES

Write or wire us your offerings

THE NEW FIRST NATIONAL BANK Assets, \$8,000,000 COLUMBUS, O.

WE BUY MUNICIPAL, COUNTY AND DISTRICT BONDS

FROM OFFICIALS DIRECT OR FROM CONTRACTORS

And are Equipped by Experience to Furnish Proper Advice and Legal Proceedings

Write to Us

THE RUDOLPH KLEYBOLTE COMPANY

18 East Fourth Street

Established 1891

Cincinnati, Ohio

W. L. SLAYTON & CO. TOLEDO, OHIO

DEALERS IN

CITY
COUNTY
TOWNSHIP

BONDS

ROAD
SCHOOL
DRAINAGE

If you want to Buy or Sell, write for Prices.

We solicit your patronage.

BONDS

CITY, COUNTY, SCHOOL,
ROAD, DRAINAGE, WATER

Bought and Sold

We Purchase Direct or from Contractors

THE HUGH RIDENOUR CO.

COLUMBUS, OHIO

The Hull Investment & Securities Company

TRUST BUILDING, CHARLOTTE, N. C.

MILL STOCKS AND HIGH-CLASS SOUTHERN SECURITIES

BONDS PURCHASED FROM MUNICIPALITIES OR FROM CONTRACTORS

We handle all detail involved in preparing the necessary legal papers, printing the bonds, certifying as to their genuineness and payment of principal and interest as they mature.

We Would Appreciate Your Offerings

MERCANTILE TRUST COMPANY, St. Louis, Mo.

Bond Department

Capital and Surplus, \$9,500,000

BLACK & COMPANY CERTIFIED PUBLIC ACCOUNTANTS

(WILMER BLACK, C. P. A.)

Suite 1208 Garrett Bldg., Baltimore, Md.

NATIONAL FINANCE CORPORATION

529-533 Calvert Building

BALTIMORE, MD.

TEMPORARY AND PERMANENT FINANCING

REORGANIZATIONS EFFECTED

GENERAL AUDITING AND APPRAISING

NOTES DISCOUNTED

OPEN ACCOUNTS PURCHASED

LOANS MADE TO STATES, CITIES, COUNTIES, ETC.

Also Entire Issues of Bonds Purchased

We prepare and certify as to the genuineness of
MUNICIPAL BONDS

Largest Capital and Surplus of Any Financial Institution in Maryland
or Any Southern State.

Established 1884

Resources \$21,000,000

MERCANTILE TRUST AND DEPOSIT COMPANY
OF BALTIMORE

A. H. S. POST, President

F. G. BOYCE, Jr., Vice-President

BAKER, WATTS & COMPANY BANKERS

We purchase

State, City and County Bonds

Southern Issues a Specialty

Correspondence invited from Municipal Officials, Banks and Private Investors
Send for book on "Municipal Obligations"

Calvert and German Sts.

BALTIMORE, MD.

Equipment).—\$20,000 of bonds recently voted are 20-year 5 per cent. Denomination \$1000. Dated Jan. 1, 1917, maturity Jan. 1, 1937. Address Don McMasters, Com. of Finance. R. E. Jenness is City Clerk.

Okla., Tahlequah—(Bridge).—\$100,000 of Cherokee County bonds defeated. Address County Commrs.

Okla., Tulsa—(Boulevard, Park).—\$100,000 of 5 per cent. bonds, dated Aug. 1, 1915, and maturing Aug. 1, 1921 to 1940, inclusive, have been purchased at par, accrued interest and premium of \$5162.75 by W. A. Brooks, Oklahoma City. John H. Simmons is Mayor.

S. C., Anderson—(Paving).—Steps are reported being taken to call an election to vote on \$125,000 bonds. Address The Mayor.

S. C., Anderson—(Drainage).—Board of Commrs. Eighteen Mile Creek Drainage Dist. gives notice that it proposes to issue \$33,000 of 6 per cent. 25-year bonds. Jno. W. Linley is Chrmn. of the Board.

S. C., Chester—(Street).—Reports state election will probably be held in May to vote on \$81,000 of bonds. A letter to the Manufacturers Record, says: "Nothing definite yet as to amount or details." E. V. Davidson is Mayor.

S. C., Columbia—(School).—\$500 of Brookland School Dist., Richland County, bonds have been sold. Address Board of Trustees.

S. C., Columbia—(Street, Park, Abattoir, Market).—City is taking steps to issue \$260,000 street improvement, \$25,000 city market, \$20,000 park improvement, and \$15,000 abattoir bonds. They will probably run 40 years. L. A. Griffith is Mayor.

S. C., Darlington—(Street, Drainage).—Election is to be held Feb. 15 to vote on \$50,000 of 6 per cent. street and drainage bonds. E. R. Cox is Mayor and E. Vaughan Clerk.

S. C., Greenville—(School).—Special election is to be held to vote on \$150,000 of 5 per

cent. 20-year school-district bonds. P. T. Hayne is Chrmn. Board of School Trustees.

S. C., Greenwood—(Jail, Indebtedness).—Greenwood County proposes to issue \$100,000 of bonds for jail improvements and to wipe out indebtedness of county. Bill for same will be introduced in the Legislature. Address County Commrs.

S. C., Sumter—(Paving).—\$75,000 paving bonds are voted and steps are being taken to offer them for sale. Address The Mayor.

Tenn., Chattanooga—(Refunding, Bridge and School).—The Hamilton County Court has requested the Legislature to enable it to issue \$730,000 of bonds as follows: \$550,000 for refunding and to complete Market St. bridge; \$100,000 to fund the floating debt of the Grammar School Board, and \$80,000 to build the Suck Creek Rd. Address County Commrs.

Tenn., Clarksville—(Bridge).—Bill has been introduced in the Legislature authorizing Montgomery County to issue \$50,000 bonds and setting May 1 as date of election. Address County Commrs.

Tenn., Cleveland—(Road).—On April 1 Bradley County will offer for sale \$25,000 of bonds. Address County Commrs.

Tenn., Hohenwald—(Road, Bridge).—\$100,000 of 5 per cent. 40-year bonds Lewis County are to be sold Feb. 15. Ernest L. Sprinkler is County Clerk.

Tenn., Jackson—(Sewer).—Election is soon to be held, it is reported, to vote on \$40,000 bonds. Address The Mayor.

Tenn., Jacksboro—(School).—Bids will be received until noon Feb. 3 for \$40,000 of 5 per cent. \$500 denomination bonds, maturing Jan. 1, 1942. Wm. Allen is Judge of Campbell County. Further particulars will be found in the advertising columns.

Tenn., Knoxville—(Hospital).—Application is to be made to the Legislature for authority to issue \$100,000 of bonds for addition to the Knoxville General Hospital. John E. McMillan is Mayor.

Tenn., Knoxville—(School, Water, Sewer).—The city has applied to the Legislature for authority to issue \$600,000 of 5 per cent. 30-year bonds for city improvements, including also the extension of streets, sewers and water mains, and the building of schools in the suburban sections which the city proposes to annex. John E. McMillan is Mayor and Robt. P. Williams Recorder and Treas.

Tenn., Manchester—(Road, Bridge).—Election is to be held in Coffee County March 10 to vote on \$250,000 road and bridge bonds. Address County Commrs.

Tenn., Maryville—(Schools).—\$50,000 of 5 per cent. 10-25-year \$1000 denomination Blount County bonds, dated Mch. 15, will be offered for sale Feb. 24. Address Geo. D. Roberts.

Tenn., Memphis—(Refunding).—Application is to be made to the Legislature, it is reported, asking authority to issue \$500,000 of bonds to pay city's outstanding indebtedness. Address Mayor Ashcroft.

Tenn., Springfield—(Water).—\$33,000 of filtration bonds are voted. Address The Mayor.

Tex., Amarillo—(Road).—Board of Commissioners Potter County has been petitioned to call an election to vote on \$150,000 bonds.

Tex., Austin—(School Dist. Bonds).—State Board of Education has purchased school district bonds aggregating \$34,800.

Tex., Austin.—Bonds approved by Attorney-General: \$100,000 of 4½ per cent. wharf and \$400,000 of 5 per cent. sanitary improvement, Houston; \$170,000 of 4½ per cent. Austin refunding.

Tex., Belton—(Funding).—\$58,000 of Bell County funding warrants have been purchased at \$1160 premium by a Chicago firm.

Tex., Boerne—(Road).—Petitions have been circulated in Kendall County calling for an election to vote on \$120,000 bonds Precincts Nos. 2, 3 and 4. Address County Commrs.

Tex., Bryan—(Sewer).—\$8000 of 5 per cent. 20-40-year \$500 denomination bonds, dated Dec. 1, 1916, will be offered about Feb. 1.

Tex., Canyon—(Road).—It was expected that a petition would be presented to the Commrs. Court Jan. 8 asking for an election to vote on \$100,000 of road bonds, but for some reason petition was not presented. Whether this petition will be presented at the February Term is unknown, according to a letter received from C. R. Flesher, Judge Randall County.

Tex., Christine.—\$10,000 of 6 per cent. improvement warrants have been purchased by the Bankers Securities Co., Denver.

Tex., Cuero—(Jail).—\$32,500 of 5 per cent. 10-20-year \$500 denomination DeWitt County jail bonds have been purchased at \$1226.50 premium and accrued interest by the First

State Bank & Trust Co., Cuero, and the Guardian Trust Co., Denver, Col.

Tex., El Paso—(Septic Tank, Drainage, Sewer, Street).—Bids will be received until 10 A. M., Jan. 20, for \$100,000 of Septic tank installation, \$75,000 drainage system, \$40,000 sewer extension, and \$40,000 street improvement 4½ per cent. 20-40-year \$1000 denomination bonds. J. F. Dawson is City Clerk.

Tex., Floresville—(City Hall).—Election is to be held Jan. 16 to vote on \$5000 of bonds. Address The Mayor.

Tex., Galveston—(Causeway).—Election is to be held in Galveston County Feb. 14 to vote on \$600,000 of 5 per cent. 20-40-year bonds. Address Clerk County Court.

Tex., Houston—(Harbor, Sewer).—\$825,000 of 4½ per cent. harbor and \$410,000 of 5 per cent. sewer bonds have been purchased at \$50,750 premium by Easterbrook & Co., E. H. Rollins & Sons, and the Harris Trust & Savings Bank, Chicago.

Tex., Huntsville—(Road).—\$1200 Goshen Precinct, Walker County, bonds are voted. Address County Commrs.

Tex., Memphis—(Paving).—Election is to be held Apr. 1 to vote on from \$20,000 to \$30,000 of 5 per cent. 10-40-year paving bonds. D. L. C. Kinnard is City Secy.

Tex., Rusk—(Road).—\$300,000 of the \$250,000 of 5 per cent. 40-year \$1000 denomination bonds, Road Dist. No. 1, Cherokee county, dated Feb. 1, 1917, have been purchased at 2 per cent. premium by the First National Bank, Jacksonville.

Tex., San Angelo—(Paving).—\$25,000 of 5 per cent. 10-30-year bonds are voted. E. L. Wells, Jr., is City Mgr.

Tex., San Marcos—(Road).—\$75,000 of 5 per cent. 40-year \$1000 denomination bonds Road Dist. No. 3, Hays County, are voted and will soon be offered. L. L. Carter is Commr. Precinct No. 2, Hays County.

Tex., Seguin—(Sewer).—Bids will be received at any time by Chas. Bruns, Mayor, for \$36,000 of 5 per cent. 10-40-year bonds.

Va., Clifton Forge—(Bridge, School, Fire Equipment).—Bids will be received until 2 P. M. Feb. 1 for \$80,000 of bonds, dated Feb. 1, 1917, and maturing Feb. 1, 1947, optional after Feb. 1, 1932. Interest at 4½ or 5 per cent. T. P. Halloran is Chrmn. Finance Committee. Further particulars will be found in the advertising columns.

Va., Lynchburg—(Water-works).—Question of issuing bonds is being considered. Address The Mayor.

Va., Newport News—(Street, Boat Harbor).—Election is to be held Feb. 17 to vote on \$50,000 of street-improvement and \$50,000 municipal boat-harbor bonds. Thomas Newman is City Treas.

Va., Petersburg—(Sewer, Sidewalk and Roadway).—Common Council has adopted an ordinance which will come before the Board of Aldermen on Jan. 16 providing for issuing of \$250,000 of 4½ per cent. \$500 and \$1000 denomination bonds, dated Jan. 1, 1917; maturity Jan. 1, 1957. If passed by them the bonds will be advertised at once by sealed proposals. Address G. B. Gill, City Auditor. N. T. Patterson is Chrmn. Finance Com.

W. Va., Charleston—(Water).—Election is to be held after Apr. 1 to vote on \$140,000 of bonds. T. T. Hyde is Mayor.

W. Va., Charleston—(Road).—Bids will be received until 2 P. M. Jan. 31 by L. C. Massey, Clerk Kanawha County, for \$90,000 of 5 per cent. Loudon County road-improvement bonds; dated Sept. 1, 1916; maturity Sept. 1, 1917 to 1946, inclusive; denomination \$1000.

W. Va., Keyser—(Road).—Election is to be held in Mineral County Feb. 10 to vote on \$140,000 of 5 per cent. 25-year \$1000 denomination Frankfort Dist. bonds, dated Jan. 1, 1917; \$20,000 New Creek Dist. and \$75,000 Piedmont Dist. bonds are voted. Address County Commrs.

W. Va., Lewisburg—(Road).—Bids will be received until 2 P. M. Feb. 6 by J. S. Crawford, Clerk Court of Greenbrier County, for \$103,000 of 5 per cent. bonds.

W. Va., Sistersville—(Water).—\$30,000 of water filtration system bonds were recently voted. Address The Mayor.

FINANCIAL NOTES

The Maryland Bankers Association will hold its annual meeting this year on May 23 and 24 at Atlantic City, N. J.

The 200 State banks in Louisiana, according to the annual statement of R. N. Sims, State Bank Examiner, had at the close of business Dec. 19, 1916, total resources of \$159,976,201, an increase, as compared with Dec. 15, 1915, of \$24,638,949. Deposits amount to \$129,649,138. This report does not, of course, include national banks.

To Manufacturers and Capitalists

Contemplating the Establishment of Industrial Enterprises

Attention is called to the exceptionally favorable location of

NEWPORT NEWS, VA.

on Hampton Roads, fifteen miles from the sea, deep water, railway and sea transportation facilities unrivalled. Climate salubrious. Apply to

W. B. LIVEZEY, President

OLD DOMINION LAND COMPANY
NEWPORT NEWS, VA.

AUDITS

Certified Public Accountant

INVESTIGATIONS

ACCOUNTING SYSTEMS

FRANK P. STRATFORD,

Peoples Nat. Bk. Bldg.

COLUMBIA, S. C.

Write us about Investments in Birmingham Real Estate.

Jemison Real Estate & Insurance Co.

Real Estate
General Insurance, Loans

211 N. Twentieth St. BIRMINGHAM, ALA.

D. H. BURGESS & CO.

Exporters Importers

P. O. Box 115 PETERSBURG, VA.

Write us your needs in all lines of business

THE HAMMOND HOTELS

THE HOTEL ESSEX

BOSTON, MASS.

Opposite South Terminal Station

EUROPEAN PLAN.

RATES MODERATE.

ABSOLUTELY FIREPROOF.

Free Transfer Baggage from and to Station.

Terminal of Trains from South and West.

DAVID REED, Manager

BARNES SAFE & VAULT CO.

ROBT. H. BARNES, Prop.

Estimates furnished on Diebold Safes and Vaults. We have the largest stock of new and second-hand safes south of New York.

12 N. 12th Street

RICHMOND, VA.

York Safe and Lock Company

MANUFACTURERS OF

SAFES and VAULTS

YORK, PA.

BALTIMORE, MD.

CONVERSE COLLEGE

SPARTANBURG, S. C.

is one of the only six women's colleges in the South honored by membership as a standard college in "The Association of Colleges and Preparatory Schools of the Southern States." Its B.A. degree is accepted by the highest grade Colleges and Universities, and admits, without further work, to candidacy for the M.A. degree. It has separate science, music and library buildings; dormitories limited to 190; gymnasium and infirmary; 42-acre campus, and 38 teachers and officers. It is 35 miles from the Blue Ridge Mountains, and has an ideal winter climate. It owes no debts, and has an endowment. It is accessible North, East, South and West by six lines of railway. If you wish a catalogue, address

ROBT. P. PELL, Litt. D., President

Spartanburg, S. C.



Higgins Avenue, Chicago, Ill. Brick pavement filled with Barrett's Paving Pitch.



A brick pavement that never will crack

HERE is a brick pavement in Chicago in which there never will be a crack.

Yes, an individual brick may get broken, but those long, jagged cracks which you sometimes see in cement-filled brick pavements will never appear here.

The reason is that when this pavement was laid in 1908 the joints between the bricks were filled with Barrett's Paving Pitch. In a pitch-filled pavement like this, cracks are absolutely impossible.

Pitch does not make a rigid monolith of pavement as cement does, and so when the foundation settles

the pavement does not bridge the depressions and then break under the weight of a heavy wagon. On the contrary, the pavement simply settles with the foundation.

A pitch-filled pavement presents no difficult problems. There are no expansion difficulties, no blow-outs, no thrusting of the curbing out of line, no damage to manholes by expansion of the bricks. There is no difficulty about making cuts for repair to underground pipes and restoring the same bricks with the addition of a little pitch.

Booklets free on request. Address our nearest office.

The **Barrett** Company

New York	Chicago	Philadelphia	Boston	St. Louis	Cleveland	Cincinnati	Pittsburgh
Detroit	Birmingham	Kansas City	Minneapolis	Nashville	Salt Lake City	Peoria	
THE PATERSON MANUFACTURING CO., Limited:			Montreal	Toronto	Winnipeg	Vancouver	
St. John, N. B.			Halifax, N. S.	Sydney, N. S.			



INDUSTRIAL NEWS OF INTEREST

[Continued from page 75.]

Chain Belt Promotions.

After several promotions by the Chain Belt Co., Milwaukee, Wis., the list of officers is as follows: Chairman of board, C. W. Tevally; president, Wm. C. Frye; vice-president, C. R. Messinger; second vice-president and works manager, Wm. I. Ballentine; third vice-president, Fredk. L. Siyyer; consulting engineer, Donald Fraser; secretary, Wm. E. Sargent; treasurer, C. L. Pfeiffer; assistant secretary, G. B. Welsch. Mr. Messinger, who is also secretary of the Federal Malleable Co. and vice-president of the Siyyer Steel Casting Co., is a graduate of Yale University. Mr. Ballentine recently moved to Milwaukee from Indianapolis, where he was president of the Ballentine-Bixby Co. Mr. Welsch is a recent graduate of the University of Wisconsin.

TRADE LITERATURE

Obviating Wood Decay.

Long life of wood, of various kinds and in different uses, as obtained by the use of Barrett's Carbosol—grade one liquid creosote oil, manufactured by The Barrett Company, New York, is treated in two circulars of recent issue, one dealing particularly with wood for farm use, the other with general domestic and industrial construction.

Sailsmanship and Salesmanship.

In a late issue of the Salesmanship of the Columbia Crew, the house paper of the Columbian Rope Company, Auburn, N. Y., an interesting article comparing sailsmanship and salesmanship is given by Sir Thomas Lipton, whose experience in business and with the Shamrocks equips him to speak authoritatively on both subjects.

Roving Machinery.

As stated in a folder recently issued by the Saco-Lowell Shops, Biddeford, Maine, the company has fully redesigned its line of roving machinery, with the stated object of placing its frame in the highest rank made possible by the advent of new tools for the machining processes. The satisfactory service of machines of these improved designs is said to be attested by over 7000

frames built since the inauguration of these changes.

Desk Appliance.

Utility is combined with attractiveness in a desk pad and perpetual calendar sent out by Charles H. Jones & Co., municipal, railroad and corporation bonds, 20 Broad street, New York. The appliance is an ornament to a desk, the term of usefulness of which is indefinite in length.

Silent Power Chains.

Publication No. 15 of the Morse Chain Company, Ithaca, N. Y., is devoted to small-power drives as made by Morse silent chains, their application in a variety of industrial plants being shown. An information blank contained on one sheet affords a convenient form for sending the company all information necessary in most cases.

Pulverizers.

The K-B all-steel hammer mill pulverizer, manufactured by the K. B. Pulverizer Company, Inc., New York City, to fill the demand for a strong and efficient machine to pulverize moderately hard materials at a low cost, is described and explained in operation in an illustrated catalogue recently issued.

Roof Connections.

Photographic views and cross-sectional drawings, with size and price lists and descriptive matter, of Holt roof connections, manufactured by the Barrett Company, New York, applied successfully with different types of vents, are given in a recently-issued pamphlet.

Emerson Steam Pumps.

In the 1917 catalogue of Emerson steam (vacuum) pumps, manufactured by the Emerson Pump & Valve Co., Alexandria, Va., are shown, among listings of the entire line and articles of baffling problems solved with the Emerson, two new sizes and style of pump, made especially light and easily taken apart to facilitate transporting over difficult routes and installing under adverse conditions.

Air Cleaners and Coolers.

Spraco equipment for washing and cooling air, manufactured by the Spray Engineering

Co., Boston, Mass., and especially applicable for steam turbine generators and other electrical machinery, is illustrated and described in the company's new bulletin No. 250, the material for which shows careful preparation. It deals with general engineering and scientific phases of the matter and goes into detail with types of equipment and special installations.

Pumping Equipment.

Bulletins 40, 60 and 80 of the John H. McGowan Co., Cincinnati, O., present, respectively, data and tables on deep-well pumping equipment, duplex steam pumps and duplex power pumps. Other types manufactured by the company are single direct-acting steam, duplex direct acting, single power, duplex power pumps and water-works pumping engines. Reliability, durability and efficiency are watchwords of the company applied to its product.

Steel Tanks.

In the January issue of the Quarterly of the Chicago Bridge & Iron Works, which is published by the company to promote the co-operation of the various departments and to act as a medium for the exchange of helpful hints and suggestions, illustrated articles are given to show the superiority of steel tanks over other kinds. Leakage, bursting and burning are dangers from which it states its tanks free. A number of recent installations are shown.

Power Scraper.

A catalogue designed to show to those interested in excavating machinery the claimed adaptability, wide range, economical use and the simplicity of the construction and operation of the Lauerman Power Scraper has been issued by Lauerman Bros., Chicago, Ill. In sizes $\frac{1}{2}$ to 2 cubic yards capacity, with or without teeth, the scraper is designed for digging and conveying dry or water-covered material, loading and delivering to storage points, such as sand, gravel, clay, coal, etc.

Atlanta Office Opened.

In order to better facilitate the sales and at the same time give out-of-town visitors easy access to the office of a direct representative, the Southern Wood Preserving Company, which has its plant and general

offices located at McPherson, Ga., a suburb of Atlanta, established on January 1 an office for its general sales manager at 218 Healey Building, Atlanta. Karl W. Brittain, who until the first of the year was assistant city engineer, is in charge of the downtown office as the general manager of sales.

Noiseless Gears.

Fabroil gears (formerly known as cloth pinions), manufactured by the General Electric Company, Schenectady, N. Y., are shown in Bulletin 48702 in a variety of applications for which they are said to have demonstrated themselves peculiarly well suited. They are made in a wide range of sizes, as shown in Bulletin 48703, and are claimed to be noiseless and durable.

Tool Co. Bulletins.

Illustrated description of and instructions for applying and operating the Bayer railway speed recorder are contained in Bulletin 263 from the Chicago Pneumatic Tool Company, Fisher Building, Chicago, Ill., and 52 Vanderbilt avenue, New York City. Giant fuel oil engines for using a low grade of fuel oil are illustrated and described in Bulletin 34-W.

Storage Battery Trucks.

Specifications and descriptions of various types of storage battery trucks manufactured by the Jeffrey Manufacturing Company, Columbus, Ohio, are given in the company's new bulletin No. 209. These trucks, said to be adapted for use in factories, warehouses and industrial plants generally, are illustrated working under various conditions.

Interior Air Regulators.

An explanation of how a system of temperature and humidity control is dependent chiefly upon the number and sizes of rooms, their contents, arrangement of machinery, source of heat and moisture, effect of air currents and the exact humidifying, dehumidifying, heating, cooling and drying or combination of these, is given in bulletin No. 102 from the Carrier Engineering Corporation, 39 Cortlandt street, New York, along with specific descriptions of its machines for those purposes.

[Continued on page 85.]



Rib Bar. Straight or bent to requirements—stock or mill shipments—sizes $\frac{3}{8}$ -in., $\frac{1}{2}$ -in., $\frac{3}{4}$ -in., 1-in., $1\frac{1}{4}$ -in. (same area as square bars)—all lengths.



Kahn Trussed Bars. All sizes—all lengths—all types of shearing—large stocks ready for prompt shipments.

NO DELAYS ON REINFORCING STEEL



Rib Metal. Panel of nine straight bars formed from one section of steel. Size of mesh 2-in., 3-in., 4-in., 5-in., 6-in., 7-in. and 8-in.—all lengths up to 18 ft.—furnished in flat or curved sheets.

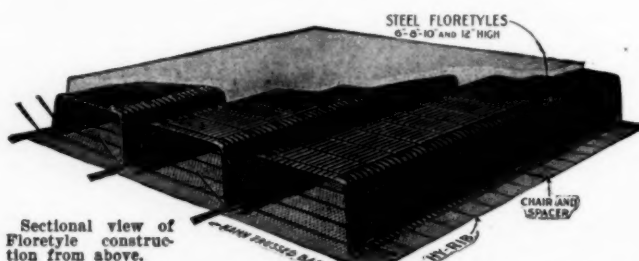
Our foresight and increased capacity enable us to promise prompt shipment of Reinforcing Steel at a time when the demand is greater than ever before. We are prepared to furnish Kahn Bars, Rib Bars (straight or bent), Plain Bars, Column Hooping, Floretyles, Floredomes, etc., if you order at once—later may find our supply exhausted.

Because of this unprecedented condition the supply is limited and all prices are advancing daily. The early buyer will forestall any after regrets and profit by his promptness. Write, 'phone or telegraph your orders today.

TRUSSED CONCRETE STEEL CO.

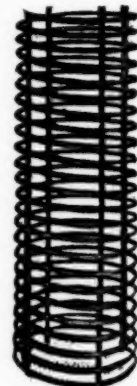
Department G-12 Youngstown, Ohio

Representatives in principal cities.



Sectional view of Floretyl construction from above.

Steel Floretyles. Specially formed, hollow metal tiles—save weight and steel in reinforced concrete—depth 6-in., 8-in., 10-in. and 12-in. Standard lengths 3 ft. and 4 ft.



Column Hooping. Shipped flat. Diameters 9 to 30 in.; pitch $1\frac{1}{2}$ to 12 in.



SARASOTA

"The Winter Sun Parlor of America"

Sarasota is located in fertile Manatee County, the garden spot of Florida, and is the prettiest and best situated area in the State and has the most equable climate in the world.

The Sarasota Improvement Company has been the biggest upbuilder of Sarasota.

We have for sale splendid house sites and grove properties.

We Are Now Offering:

At very reasonable prices, 1140 acres of very desirable land within one mile of the corporate limits of Sarasota.

Write us for information relative to Sarasota and vicinity.

Sarasota Improvement Company

J. B. Fletcher, President

SARASOTA, FLA.

ARCHITECTS ENGINEERS CONTRACTORS

Detailed classification of specialized work undertaken by those
having cards in this Directory will be found in Classified Index.

MILBURN, HEISTER & CO.

Architects

WASHINGTON, D. C.

THE ARNOLD COMPANY

Engineers—Constructors
Electrical—Civil—Mechanical

105 South La Salle St. CHICAGO
111 Broadway NEW YORK

J. M. CLARK, Mem. A. I. M. E.
C. E. KREBS, Mem. A. I. M. E.
G. R. KREBS J. W. MORGAN

CLARK & KREBS

Civil and Mining Engineers and Geologists
Coal, Oil and Gas
Railroad and Municipal Engineering
CHARLESTON, W. VA.

HENRY WELLES DURHAM

Consulting Engineer

Highway and Municipal Engineering Work.
Specialist in Street Paving.

355 Fifth Avenue NEW YORK

Government Landscape Architect—1910-1916.

GEORGE BURNAP Landscape Architect

Washington, D. C.

PARKS SUBDIVISIONS ESTATES

DAY & ZIMMERMANN

Successors to
DODGE, DAY & ZIMMERMANN
Engineers

Layout, Design, Construction, Industrial Plants,
Examination, Reports and Operation, Public
Service Properties.
611 Chestnut Street PHILADELPHIA

A. LANGSTAFF JOHNSON, Jr., M. E., E. E.
Mutual Building, RICHMOND, VA.

MOSES, POPE & MESSER, Inc.

Consulting Engineers
268 Fifth Avenue, NEW YORK
The combined services of a corps of chemical,
civil, efficiency, electrical, industrial, mechanical
and municipal engineers, with a research
laboratory, are available to our clients.

DOW & SMITH

Chemical Engineers Consulting Paving Engineers
A. W. Dow, Ph.B. F. P. Smith, Ph.B.

Mem. Am. Inst. Ch. Engrs.
Mem. Am. Soc. Civ. Engrs.
Asphalt, Bitumens, Paving, Hydraulic Cement,
Engineering Materials
131-3 E. 23d Street NEW YORK

LOUIS G. CARLISLE

Architect

VICKSBURG, MISS.

COMSTOCK ELECTRIC CO., Inc.

Contracting Engineers

HIGH POINT, N. C.

CHARLES T. MAIN

Member A. S. M. E.

Textile Mills

WATER POWER DEVELOPMENTS

201 Devonshire Street BOSTON

GILBERT C. WHITE, C. E.

M. A. M. Soc. C. E.

Consulting Engineer

Water Works Streets
DURHAM, N. C.

WILLIAM A. STANTON

Architect and Structural Engineer

All Classes of Concrete and Steel Construction.
308 First Nat. Bank Bldg.
VICKSBURG, MISS.

DANIEL W. MEAD F. W. SCHEIDENHELM

Consulting Engineers

Hydraulic and Electric Developments.
Water Supply, Flood Control, and
Reclamation Works.
Equitable Bldg., 120 Broadway NEW YORK

W. E. MOORE & COMPANY

Engineers

Reports, Designs, Supervision, Public
Service Properties, Power Developments,
Distribution and Application.
Union Bank Building PITTSBURGH, PA.

MORSE, HALL & COCKEY

Consulting Engineers

ROBERT B. MORSE HARRY R. HALL
M. Am. Soc. C. E. Assoc. M. Am. Soc. C. E.
VINTON D. COCKEY
Specialties—Water Supply and Sewerage,
Typhoid Fever Investigations, Landscape
Developments, Roads and Paving.
324 N. Charles St. BALTIMORE, MD.

D. F. MORTON G. G. WHITE

MORTON & WHITE

Architects and Engineers

JOHNSON CITY, TENN.

HUGH L. COOPER & CO.

General Hydraulic Engineering

Including the Design, Financing, Construction
and Management of Hydro-Electric
Power Plants.
101 Park Avenue NEW YORK

HENRY B. HAVELY, C. E.

Consulting Engineer

SPECIALIST IN
Highways, Streets and Pavements.
MORRISTOWN, TENN.

WILLIAM SPEED

Civil Engineer and Landscape Architect

Chief Engineer Louisville-Nashville
Division Dixie Highway.
Starks Building LOUISVILLE, KY.

Mem. Am. Soc. M. E. Mem. Am. Soc. C. E.
HENRY EXALL ELROD
Roads, Pavements, Municipal Works, Reports
and Appraisals.
Southwestern Life Bldg. DALLAS, TEXAS

MORRIS KNOWLES

Mem. Am. Soc. C. E. Mem. Am. Soc. M. E.
Hydraulic and Sanitary Engineer
Investigations and Valuations for Purchase
or Financing Water and Sewer
Systems, Water Power, Drainage and
Irrigation Systems.
Oliver Building PITTSBURGH, PA.

C. L. BROOKS ENGINEERING CO.

Packing-House and Cold-Storage Engineers.
We help you raise the capital, build the
plant and run it successfully. We make
a specialty of Southern plants.
Main Office—MOULTRIE, GA.
MINNEAPOLIS, MINN. ATLANTA, GA.
736 Plymouth Bldg. 711 Empire Bldg.

HARRY STEVENS

Civil and Mechanical Engineer

Water Works, Sewerage and Sewage Disposal,
Power Plants, Factories, Steam and
Electric Railways, Surveys, Examination,
Reports and General Engineering Work.
Union Trust Bldg. WASHINGTON, D. C.

DANIEL B. LUTEN

Designing and Consulting Engineer

Reinforced Concrete Bridges exclusively.
Associate Engineers in each State.

INDIANAPOLIS, IND.

BROWN & CLARKSON

Civil and Mining Engineers.

Comprehensive Town Planning, Land Subdivision,
Traffic Problems, Road and Street Systems.
Precise Surveys, Triangulation, Topographic Property,
Geological Surveys for Oil and Mine Development.
Oxford Bldg., 14th St. and N. Y. Ave.
WASHINGTON, D. C.

ELLIOTT VANDEVANTER

A. M. Am. Soc. C. E.

Contracting Engineer.

Specialties—Sewerage, Road and Paving,
Reinforced Concrete.
1803 Guilford Ave. BALTIMORE, MD.

EDWIN WORTHAM, E. E.

Consulting Engineer

Industrial Plants, Factories, Municipal Work
of all kinds, Steam and Electric Railways,
Public Utilities, Reports, Valuations, Supervision,
Franchises Drawn, Properties Operated.
Suite 47, Allison Bldg. RICHMOND, VA.

WILLIAM C. SPIKER, C. E.

Mem. Am. Soc. Civ. Engrs.
Consulting Engineer

Reinforced Concrete and Structural Steel
Buildings and Bridges.
1408-9 Candler Bldg. ATLANTA, GA.

FREDERICK H. LEWIS

Civil and Mechanical Engineer

Plans, Specifications and Supervision
for Industrial and Electric Plants.
732 Brown-Marx Bldg. BIRMINGHAM, ALA.

E. W. MYERS

Consulting Engineer

Water Power Water Supply Sewerage
GREENSBORO, N. C.

WALTER G. FRANZ

Mem. A. S. M. E. Assoc. A. I. E. E.

Consulting Engineer

Designing and Superintending of Mechanical,
Electrical and Sanitary Work.
Union Trust Bldg. CINCINNATI, OHIO

W. M. GARDNER, H. N. HOWE.
Mem. Am. Soc. C. E. Assoc. Mem. A. M. Soc. C. E.

GARDNER & HOWE

Engineers

Designs, Estimates and Supervision;
Concrete Bridges, Viaducts, Buildings,
and other Structures.
Porter Building MEMPHIS, TENN.

MARTIN J. LIDE

Consulting and Constructing Electrical
and Mechanical Engineer

BIRMINGHAM, ALA.

KNIGHT & QUAYLE

Consulting Engineers

Water Works, Water Supply and Purification, Flood
Prevention, Sewerage and Sewage Disposal, Municipal
Sanitation and Wastes Utilization, Garbage Collection
and Reduction, Supervision and Operation of Sanitary
Works, Pumping Engine Efficiency Tests,
Chemical, Biological and Mechanical Analyses,
Reports, Valuations, Designs.
408 Times Building CHATTANOOGA, TENN.

ISHAM RANDOLPH & CO.

CHICAGO JACKSONVILLE

Consulting Engineers

Reports, Plans, Supervision, Drainage,
Harbor Work, Water Power, Bridges,
Municipal Work and Railways.

THE A. J. MARTIN CO.

Contracting Engineers

Bridges, Dams and Power Houses. Difficult
Foundation Work.
311 Union Svc. Bldg. AUGUSTA, GA.
PORTSMOUTH, OHIO

EDWARD F. TERRY FREDERICK TENCH
President V.-P. & Treas.

THE TERRY & TENCH CO., Inc.

Bridge Builders,

General Contractors, Engineers and
Designers.
Grand Central Terminal NEW YORK

M. Am. Soc. C. E. M. Inst. C. E.

ARTHUR PEW

Consulting Engineer

Municipal Work ATLANTA, GA.

FREELAND-KLYCE ENG'G CO.

Consulting Engineers

Concrete and Steel Structures
NASHVILLE, TENN.

F. G. PROUTT

Electrical and Mechanical Engineer

Member A. I. E. E. Member A. S. M. E.
Randolph Bldg. MEMPHIS, TENNESSEE

HEDRICK & HEDRICK

Consulting Engineers
Bridges, Viaducts and other Structures of
Steel and Reinforced Concrete.
Interstate Building, KANSAS CITY, MO.

E. ELFORD

Contractor and Engineer

Reinforced Concrete Construction
520 Commercial Bldg. COLUMBUS, OHIO

THE DABNEY ENGINEERING CO.

Water Works, Sewers, Roads, Drainage, Electric
Lighting Systems, Plans, Estimates, Reports.
376 Randolph Bldg. MEMPHIS, TENN.

W. C. O'BRIANT

General Mill Construction. Saw Mills a Specialty.
Randolph Bldg. MEMPHIS, TENN.

DIRECTORY

ARCHITECTS ENGINEERS CONTRACTORS

Detailed classification of specialized work undertaken by those
having cards in this Directory will be found in Classified Index.

Ford, Bacon & Davis, Engineers.

115 Broadway, New York

New Orleans

San Francisco

J. E. SIRRINE

Mill Architect and Engineer

SPECIALTY:

Textile Mills and Water Power Developments

GREENVILLE, S. C.

CRAM ENGINEERING CO., Inc.

Engineers

CONSTRUCT MANAGE FINANCE.
Industrial Properties and Public Utilities.
Reports Valuations Estimates.

Maryland Casualty Building

BALTIMORE, MD.



Stone & Webster Engineering Corporation

Constructing Engineers

NEW YORK

BOSTON

CHICAGO

ATLANTIC ENGINEERING COMPANY

*Engineers Constructors
Electrical—Civil—Mechanical*

Steam and Electric Railroads; Bridges; Highways; Water Powers; Power, Lighting
and Industrial Plants; Municipal Improvements; Docks and Wharves; Drainage and
Reclamation Projects; Railroad Valuation; Appraisals; Economical Power Production.
606-607 Germania Bank Building SAVANNAH, GA.

THE J. G. WHITE COMPANIES

ENGINEERS

CONTRACTORS

FINANCIERS

OPERATORS

43 EXCHANGE PL.



NEW YORK

B. S. SNOWDEN

SNOWDEN & HAUSER

G. E. HAUSER

Civil and Consulting Engineers

Specialists in Highway, Municipal, Drainage and Sanitary Engineering.
Surveys, Designs, Estimates of Cost, Reports, Supervision and Inspection.
COLUMBUS, MISS.



GRAVES ENGINEERING CO., Inc.

Engineers and Operators

Industrial Properties and Public Utilities

25 Pine Street

NEW YORK

TUCKER & LAXTON

Contracting Engineers

Filters, Concrete Work, Hydro-Electric and Steam Electric Construction

CHARLOTTE, NORTH CAROLINA

KELLY, COOKE & CO.

Engineers

Design and Supervision of Construction
Operation, Reports, Appraisals, Rate Developments
Public Utilities — Industrial Plants — Municipalities
PHILADELPHIA, PA.

JOHN W. MOORE

MOORE BROTHERS

OTTO N. MOORE

Consulting Engineers

Machine Design. Pumping Systems and Construction for large users of water.
Our facilities for Machine Construction are ideal.

3745 E. Washington Street

INDIANAPOLIS, IND.

HUNT ENGINEERING CO.

Designing, Constructing and Operating Engineers and Contractors

Experts in Portland Cement Engineering

Examinations and Reports Made

513-517 Republic Building

KANSAS CITY, MO.

NORTON, BIRD AND WHITMAN

Engineers

Electric Light and Power Plants, Hydro-Electric Plants, Municipal
Improvements, Sewerage and Water-Works, Public Service Properties

WM. J. NORTON,
Mem. Am. Inst. E. E.

PAUL F. BIRD,
Mem. Am. Soc. M. E.

EZRA B. WHITMAN,
Mem. Am. Soc. C. E.

CHICAGO, ILL., 111 West Monroe St.

BALTIMORE, MD., Munsey Building

H. E. MOLE

Engineer

Examinations, Estimates and Reports.
Plans and Specifications. Lighting and
Power Properties.

55 Liberty Street

NEW YORK

WILLARD, BOGGS & CO.

General Contractors

Water Power Development Railroad Con-
struction. Buildings.

SPARTANBURG, S. C.

F. ERNEST BRACKETT

Civil and Mining Engineer
Coal Mines, Water Works, Sewerage,
Industrial Plants, Surveys and Reports.
Clark-Kesting Bldg. CUMBERLAND, MD.

ARCHITECTS

ENGINEERS

CONTRACTORS

Your card on these pages will
place you directly before the
active forces of the South and
Southwest.

L. SCOTT TWOGOOD

Civil and Sanitary Engineer.

Steel and Reinforced Concrete Structures, Build-
ings, Bridges, Industrial Plants, Viaducts.
Water Supply, Water Purification, Sewerage Sys-
tems, Sewage Disposal, Municipal Improvements.
114-15 Bank of Commerce Bldg. MEMPHIS, TENN.

SCOFIELD ENGINEERING COMPANY

Consulting, Designing and Supervising Engineers

TEXTILE—MECHANICAL—ELECTRICAL—CIVIL

Commercial Trust Building

PHILADELPHIA

THE J. B. McCRARY COMPANY

Engineers

ATLANTA, GEORGIA

MUNICIPAL IMPROVEMENTS

Southern work only. Have built over half of the Water, Light and Sewer
Systems in Georgia and Alabama. We Design — Finance — Superintend.
Bonds Purchased.

— DIRECTORY —

ARCHITECTS ENGINEERS CONTRACTORS

Detailed classification of specialized work undertaken by those
having cards in this Directory will be found in Classified Index.

THE S. R. SMYTHE COMPANY

Engineers

PITTSBURGH, PA.

Contractors

Steel Works, Rolling Mills, Blast Furnaces, Hot Blast Stoves, Furnaces for All
Purposes. Operated with Producer Gas, Natural Gas Oil or Pulverized Coal.
Coke Ovens. Gas Producers, Hand Operated or Mechanical.

The Valve of the Era.

SCHILD SLIDING GAS AND AIR REVERSING VALVES

HOWARD M. GASSMAN

Mem. Am. Soc. M. E.

Consulting Engineer

Mem. Am. Inst. E. E.

EQUIPPING MILLS AND MINES WITH POWER.
REPORTS ON AND DESIGNING OF MANUFACTURING AND
POWER PLANTS.

Brown-Marx Building.

BIRMINGHAM, ALABAMA.

ARTHUR G. McKEE & CO.

Engineers and Contractors

Power Plants. Industrial Buildings. Metallurgical Plants. Blast Furnaces.
Storage Bins. Coal-Handling Equipment.

Design—Construction.

CLEVELAND, OHIO

SAWMILL CONSTRUCTION COMPANY

Contractors and Engineers.

NEW ORLEANS, LA.

SAVANNAH ENGINEERING AND CONSTRUCTION CO.

SAVANNAH, GEORGIA

Engineers and Constructors

BIRMINGHAM BLUE PRINT COMPANY

Latest Machinery Prints. Washes, dries and irons—all in one operation.
Blue, Brown, White Prints and Negatives.

417-418 American Trust Bldg.

BIRMINGHAM, ALA.

C. W. LANE & CO., Inc.

General Contractors

Steam and Electric Railroads, Water Powers Developed.
City Water Works, Sanitary Sewers, Street Paving, Concrete Buildings.
General Offices, Healey Building

ATLANTA, GA.

Dredging

RIVER AND HARBOR IMPROVEMENTS

Hydraulic Fills

Land Drainage

Dock Construction

GLOBE DREDGING CO.

SAVANNAH, GA.

SPRAY ENGINEERING COMPANY

Engineers

Manufacturers



For Spray Cooling Ponds, Irrigation
Systems, Aerating Reservoirs, Odor
Condensers, Gas Washers.

93 Federal Street

Of Air Washers, Spray Nozzles,
Aerating Nozzles, Asphalt Nozzles,
Park Sprinklers.

BOSTON, MASS.



We test foundations for buildings, bridges and dams.
We prospect coal and mineral lands in any part of
North and South America.

WE LOOK INTO THE EARTH

By use of Diamond Core Drills

PENNSYLVANIA DRILLING COMPANY

2623 Whitehall Bldg., New York. 30 Carson St., Pittsburgh, Pa.

Phone Rector 5995

Phone Hemlock 305.

Architects Engineers

Chemists Geologists

The unparalleled activity in every phase of industrial development of the Southern and Southwestern States is creating opportunities for technically trained men that are not surpassed by any section of America today.

Your card in the professional directory of the Manufacturers Record—for 35 years the leading exponent of Southern development—will keep your special line of work before the men who are in active charge of the South's industrial affairs.

DIRECTORY CHEMISTS GEOLOGISTS CHEMICAL ENGINEERS TESTING LABORATORIES

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

SAMUEL P. SADTLER & SON

Consulting and Research Chemists.

Analyses and Reports made in all Branches of Industrial Chemistry. Raw Materials and Waste Products studied and reported upon. Experimental work.
Office and Laboratory, 210 S. 13th Street; Experimental Laboratory, Chestnut Hill,
PHILADELPHIA, PA.

RICHARD K. MEADE

Mem. A. M. S. M. E. Mem. Am. I. Ch. E.

Chemical, Mechanical and Industrial Engineer

Chemical, Cement, Lime and Fertilizer Plants Designed and Improved. Reports on Industrial Propositions. Technical Research. Analyses. Tests and Inspection of Engineering Materials.
Law Building BALTIMORE, MD.

PITTSBURGH TESTING LABORATORY

General Inspection

Specialties—Cement and Road Materials, Cast Iron Pipe, Chemical and Physical Tests.

CINCINNATI BIRMINGHAM DALLAS
CHICAGO PITTSBURGH NEW YORK

L. T. Emory, C. E. R. H. Eisenbrey, Chem. E.

EMORY & EISENBREY

Civil, Chemical and Industrial Engineers

Designs of Industrial Plants. Modernizing, Investigations and Reports on Manufacturing and Mining Propositions. Specialists on Feldspar, Talc, Silica, Kaolin, Bauxite, and similar minerals.
PHILADELPHIA, PENNSYLVANIA

FROEHLING & ROBERTSON

Richmond Testing Laboratory

Chemists and Economic Geologists

Analyses of all kinds. Waters and fertilizers specialties. Standard Cement Testing Examinations and reports on mineral properties.
813 East Franklin St. RICHMOND, VA.

Robert W. Hunt
Jas. C. Hailsted

Jno. J. Cope
D. W. McNaugher

ROBERT W. HUNT & CO.

Engineers

INSPECTION AND TESTS. Steel and Cement for Bridges and Buildings. Railroad Material and Equipment. Chemical, Physical and Cement Laboratories.

Chicago New York Pittsburgh St. Louis
Dallas New Orleans Los Angeles San Francisco

D. C. PICARD, B. Sc. M. A.

(Formerly President the Picard-Law Co., Atlanta, Ga.)

Analytical and Consulting Chemist.

Industrial Problems. Municipal Sanitary Work and Testing of Municipal Supplies. Analysis of Foods, Cotton seed Products, Fertilizers, Minerals, Fuel and Water—Chemical and Bacteriological.
Potter Building BIRMINGHAM, ALA.

MAYNARD & SIMMONS

Engineers

GEOLOGICAL, MINING, CONSTRUCTION. We handle every phase from geological investigation to design, construction and operation of plants. Consultation with going concerns. ATLANTA, GA.

OHIO TESTING LABORATORY

Analytical and Consulting Chemists. Technological and Legal Experts.

Chamber of Commerce Building

COLUMBUS, OHIO

T. T. GRAY

Industrial Research Chemist and Petroleum Engineer.

Petroleum and its Products, Compounds, Greases and Specialties. Examinations, Refining, Manufacturing, Specifications, Research.

1363 North Ave. ELIZABETH, N. J.

G. P. GRIMSLEY, Ph. D.

Mining Geologist

Formerly Asst. State Geol. W. Va. Formerly Mgr. National Limestone Co. of W. Va. Consulting Geologist National Limestone Co. GEOLOGIST BALTIMORE & OHIO R. R.
Coal, Oil, Clays, Gypsum, Limestone, Iron Ores.
Present Address MARTINSBURG, W. VA.

MINES EFFICIENCY CO.

Geological, Mining and Metallurgical Engineering.

Examination and Exploration of Mineral Properties. Design and Erection of Concentration Plants. Manganese and Iron Ore Problems a Specialty.

709 Alworth Bldg. DULUTH, MINN.

OTTO MANTIUS

Consulting Engineer

Chemical Plants, Evaporators, Causticizers, Chemical Machinery.

Woolworth Bldg NEW YORK CITY

THE DORR COMPANY

Metallurgical and Industrial Engineers

Research, consultation and design of plants in connection with Chemical and Hydrometallurgical processes, prevention of stream pollution, trade waste treatment, etc.

17 Battery Place
DENVER NEW YORK LONDON

WILEY & COMPANY

Analytical and Consulting Chemists

Experts on Fertilizer Materials, Coal, Greases, Foods, Drugs, Dairy Products, Chemical and Bacteriological Examination of Water for Domestic and Manufacturing Purposes.

7 S. Gay Street BALTIMORE, MD.

HERBERT M. SHILSTONE, Dr. P. H.

(Fellow of the Chemical Society, London)

Consulting Chemical Engineer

Inspecting and Consulting Laboratories. Chemical and Physical Analyses of Steel, Cement, Fertilizers, Cottonseed Products, Fuels.

302 Camp St. NEW ORLEANS, LA.
Chamber of Com. Bldg. BIRMINGHAM, ALA.

GEORGE C. DAVIS

Analytical and Consulting Chemist

Analyses of Iron, Steel, Ores, Alloys, Coal, Sand, Clay and Cement.

29 South Tenth St. PHILADELPHIA, PA.

JANES & BRECKLER

Chemists and Industrial Bacteriologists

Feeds, Fertilizers, Fuels, Waters, Ores. Specialists in the manufacture of Alcohol.

Kentucky Title Bldg.

LOUISVILLE, KY.

SYNTHETIC HYDRO-CARBON CO.

Rittman Gasoline Plants designed, built and operated.

(Domestic and Foreign).

Fitzsimmons Building

PITTSBURGH, PA.

ARTHUR D. LITTLE, Inc.

ESTABLISHED 1886

The oldest, largest and best equipped organization of Chemists and Engineers in the country for the investigation of conditions affecting the efficiency and economy of industrial operations.

93 Broad Street

BOSTON

TRADE LITERATURE

(Continued from page 80.)

Pipe Machines.

Cone pulley drive, belt and motor drive pipe machines in all sizes from 3/4 to 18 inches, direct connected pipe machines from 1 1/2 to 12 inches and semi-automatic nipple, pipe and bolt threading machines, manufactured by the Williams Tool Company, Erie, Pa., are illustrated and described in detail, with repair lists included, in a recent catalogue.

Cement in the South.

A convincing statement of the mistake of Southern farmers in importing from other sections instead of raising at home all that is used there of such articles as grains, hay and livestock, is contained in a plea for more permanent construction on the farm carried in a recent issue of the "Standard" of the Standard Portland Cement Company, Birmingham, Ala. The data given will prove valuable to those who request copies, which will be mailed free.

Electric Safety Panels.

Working on the fact that the simplest object lesson may be more effective than the most detailed and extended explanation of an article, the Sprague electric works of the General Electric Company, 527-31 West Thirty-fourth street, New York, has issued a pamphlet on its safety panels for switchboards, the front cover and second page of which demonstrate the working of the safety panel in connection with the switchboard, and the ensuing pages of which contain illustrations and descriptive matter of different sizes and styles.

Industrial Values.

Two interesting and instructive papers presented at the recent annual meeting of the American Society of Mechanical Engineers, 29 West Thirty-ninth street, New York, and now issued in pamphlet form, are "Valuation of Industrial Properties vs Valuation of Industrial Methods," by Waite N. Polakov, and "Productive Capacity: Measure of Value of an Industrial Property," by H. L. Gantt. The aim of both is

an analysis preparatory to the remedy of mismanagement that puts an unfair price on produced articles.

For Concrete Products Manufacturers.

With the purpose in view of putting out a catalogue that would not only illustrate all the necessary machinery for manufacturing a complete line of high-grade concrete products, but also one that would supply the necessary information for turning out products of high quality, the Ideal Concrete Machinery Company, Cincinnati, Ohio, has issued a complete volume covering its line of concrete block and brick machinery in hand and power equipments, ornamental molds, Tycrete waterproofing compound and colors, also Blystone block plant mixer, for which it is sales agent.

Black and Special Steel Sheets.

Booklet No. 129 of the American Sheet and Tin Plate Company, Pittsburgh, relates to black sheets and special sheets. It says that the production of black-sheet steel by the company represents the highest development of the art and unlimited facilities insure promptness in delivery and uniformity of product. The booklet contains many pictures of the various kinds of sheets used in different lines of manufacturing. Particular reference is made to the value of copper alloy in steel sheets for its advantage in retarding corrosion. An alloy of 4 per cent. copper is appreciably effective, but maximum efficiency is approached at 20 per cent. copper. The company's production of copper-steel sheets increased from 5311 tons in 1911 to over 200,000 tons in 1916.

Sturtevant Dust-Collecting Systems.

The B. F. Sturtevant Company, Hyde Park, Boston, Mass., has issued catalogue No. 255, descriptive of the Sturtevant pneumatic collecting and conveying systems. It is well printed, amply and finely illustrated, and its 75 pages abound with interest. The first Sturtevant blower for collecting and conveying dust was seen in 1866. Mr. Sturtevant had made a shoe buffer which his workmen said stirred up a cloud of dust, so he made a little exhaust fan and placed it close to the buffing wheel so that it sucked away every particle of leather, leaving the air perfectly clean. Then six men made practically all the exhaust fans; now the company has a great plant with floor area of 15 acres, employing over 1500 men, which is taxed to its capacity. It produces among other things 300 varieties of fans. The company makes and installs dust-collecting and conveying systems of every description and handles all sorts of substances.

"Measuregraph" and What It Does.

The Measuregraph Company, St. Louis, issues a handsome catalogue, finely printed and illustrated, giving full information about the "Measuregraph," a little machine, which may be readily and conveniently used in retail or other establishments, will measure either dry goods or ribbons rapidly and it may be equipped with a range of prices for any department, for it automatically computes the cost of any given amount of material that a customer may desire. There are three buttons governing its operation. One of these starts the measurement, another notches the fabric when the measurement is complete, to show where it is to be cut, and the third resets all figures to zero. The measurements are recorded by a dial and the prices by a double-column chart. The accuracy of the instrument has been certified to by the Commissioner of Weights and Measures of the city of St. Louis. In addition to making machines for dry goods and ribbons the company also produces a model for the wholesale, mail-order and tailoring trades. The machine runs on a roller bearing track, which is secured to the back of the counter.

OBITUARY.

Obituary.

The Bound Brook Oil-less Bearing Co., Bound Brook, N. J., announces with sorrow the death of its President and Treasurer, Wm. Winsor Smalley, on Wednesday, Dec. 27.

Obituary.

Alfred Blunt Jenkins, late President of Jenkins Bros., New York, manufacturers of valves and mechanical rubber goods, died at his home in Llewellyn Park, West Orange, N. J., Dec. 29, at the age of 68. The present business was founded by the father of the late Mr. Jenkins. In 1872 Alfred B. Jenkins formed a partnership with his brother Charles, later, however, acquiring his brother's interest and continuing the business under the same name.

Classified Opportunities

MINERAL AND TIMBER LANDS WATER POWERS MISCELLANEOUS PROPERTIES

5400 ACRES of forked leaf, white oak and cow oak. This is located in West Carroll Parish, Louisiana. Will cut 5000 feet per acre. Oak, 16,000,000 feet; gum, hickory and pine, 11,000,000 feet. All free from defects, good sized and long-bodied.

50,000 ACRES in Caldwell Parish, Louisiana. Estimate, 365,240,000 feet. It is a very choice piece of timber and will cut 145,000,000 feet of white oak, 44,000,000 feet of red oak, 17,000,000 feet of cypress, 67,000,000 feet of gum and 9,000,000 feet of ash. Other timbers, 25,000,000. It is one of the best sawmill propositions in the South.

112,000,000 FEET of choice timber; 14,000 acres in Mississippi lies in a solid body; will cut 8000 feet per acre; 4000 feet of oak and ash; 4000 feet of gum and hickory and other timbers. This is the best body of white oak timber in the South. Convenient to the Illinois Central Railroad. The quality of the timber is unsurpassed.

210,000,000 FEET, 30,000 acres in a solid body, located in Arkansas. River and rail transportation. Will cut 7000 feet per acre. 60% oak, 40% gum and other timbers. This is the largest body of high-class timber left in the State. Price reasonable.

600,000,000 feet of hardwood timber; 80,000 acres in Arkansas, convenient to river and rail transportation. White and red oak, 354,000,000 feet; gum, 179,000,000; cypress, 12,500,000; hickory, 3,000,000; pine, 22,500,000; other timbers, 27,000,000, making a total of 598,000,000 feet, all high-class timber. For particulars write T. J. Buzard, 433 Scimitar Bldg., Memphis, Tenn.

FOR SALE—Twenty million feet yellow pine, original growth, and forty thousand feet mill in operation.

Twenty thousand mill and twenty-five million feet timber.

Twenty million feet pine and cypress timber. Write for prices and terms.

Fifteen thousand acres land in fee and thirty million feet timber. Good farm lands, and cattle range. Big bargains. All the above in South Georgia. Address Box 267, Valdosta, Ga.

HOW MINING PROFITS ARE MADE.—The Saturday Evening Post recently published a series of the most interesting and sensible articles on the mining industry that have ever appeared. One in particular clearly shows the difference between buying promoters' mining stocks and investing in legitimate operations where the actual profits are made. We will send this article free upon receipt of 2c. stamp. The Lyon Investment Co., Joplin, Mo.

PROPERTY of all descriptions in and near Newport News, Va., OFFER NOW ESPECIALLY OPPORTUNITY FOR PROFITABLE INVESTMENT. PRICES ARE STEADILY ADVANCING AND WILL CONTINUE TO ADVANCE. 600,000,000 BEING SENT IN SHIPBUILDING. \$2,000,000 AVIATION PLANT IN COURSE OF CONSTRUCTION BY U. S. GOVERNMENT. Lots, dwellings, hotels and truck farms for sale by J. L. Marye, Newport News, Va.

FOR SALE—700 acres on railroad adjoining town of 5000; textile mill site and town development or subdivision property; electric power; extensive pike frontage. Address Doak Aydelott, Tullahoma, Tenn.

ZINC LANDS.—Producing mines and undeveloped zinc lands apparently as good as adjoining in North Arkansas district. Fortunes have been made the last 2 years. Write for bargains. W. F. Reeves, Marshall, Ark.

FOR SALE (ARKANSAS).—A bargain: 300 acres tested zinc-ore land found to contain good mineral value, located in Marion county, three miles from railroad station, in the rapidly developing rich mining Kingdom Springs district. Alex. C. Thompson, Trustee, Westley, R. I.

UMBER PROPERTY
UMBER PROPERTY FOR SALE.—The largest and only commercial vein of genuine timber in the U. S. for sale. Vein is 4 to 5 ft. thick, covering large area. Price \$50,000. Well prospected. Brokers and agents, write for listing. Address T. W. Glover, President, Guntersville, Alabama.

IRON AND MANGANESE DEPOSITS
IRON-ORE PROPERTY FOR SALE.—25,000 acres in fee-simple, lying in Virginia; railroad runs through the property. A great bargain. Price \$100,000. Correspondence solicited. J. S., P. O. Box 635, Roanoke, Va.

IF THOSE who replied to advertisement (J. S., Roanoke, Va.) which recently appeared under this heading will write again to J. S., P. O. Box 635, Roanoke, Va., it will be appreciated.

FOR SALE — MANGANESE. — About 800 acres manganese mineral rights in Frederick Co., Va., about 10 miles from R. R. station. Good roads. High-grade manganese ore now being mined and shipped. Property easily investigated. Chas. F. Nelson, 1945 Calvert St. N. W., Washington, D. C.

RATES AND CONDITIONS

Rate 25 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 23c. per line; 300 lines, 21c. per line; 500 lines or more, 20c. per line.

GRAPHITE

GRAPHITE FOR SALE.—300 million tons 4% graphitic ore, 900 acres, 3 miles R. R.; ample water and ideal plant sites; can subdivide. Price \$50,000. Roland G. Spearman, Talladega, Ala.

COAL LANDS AND MINES

MINE READY FOR OPERATION.—24,000 ACRES GOOD COAL LAND FOR SALE CHEAP TO CLOSE AN ESTATE.—24,000 acres good coal land, with a mine ready to operate, power plant, mining machines, cars, etc.; 14 miles of standard and narrow-gauge railroad connecting with the Southern Railway at Lim Rock, Ala., 65 miles westerly from Chattanooga; 4 locomotives, cars; 80 dwellings and large commissary. Much valuable hardwood timber, with 2 good sawmills; most of the land on Cumberland plateau suitable for agriculture when cleared; coal known as Belmont Block, very hard, high in volatile matter, excellent for domestic use. Low freight rates and best of markets. For full particulars, price and terms address F. D. Pierce, Bridgeport, Ala.

COAL LANDS AND MINES FOR SALE.
W. Va.—10,000 Ac. Braxton Co., 2700 Ac. Webster Co., 4736 Ac. Kanawha Co., 950 Ac. McDowell Co., 1500 Ac. Lewis Co., 10,000 Ac. McDowell Co., 1000 Ac. New River Operation.
Va.—4500 Ac. Tazewell and Buchanan Co's., 1007 Ac. Wise Co.
Ky.—15,000 Ac. and 25,000 Ac. Clay Co. on R. R., 2000 Ac. Harlan Co., 2200 Ac. Harlan Co., 1500 Ac. Bell Co., 600 Ac. Harlan Co., and 400 Ac. Western Ky. operation on I. C. R. R.

We have many other tracts and operations throughout the entire Bituminous Coal Belt. For prices and terms address
ED E. WALKER & COMPANY, AGTS.,
No. 519 Madison Ave., Covington, Ky.

FOR SALE—High-grade New River coal property, producing about 10,000 tons monthly. Between 4,000,000 and 5,000,000 tons unmined. On main line of Chesapeake & Ohio Railway. Can be purchased for extremely reasonable figure. Prompt action. Address Leo Loeb, Charleston National Bank Building, Charleston, W. Va.

FOR SALE—Valuable coal mine, 2000 acres, in East Tenn., \$50,000. Options on 6000 acres adjoining can be had. Address F. T. H. Woods, 6½ S. W. Pack Sq., Asheville, N. C.

POCAHONTAS COAL LANDS for sale and lease. Mines for sale. Charles V. Price, Welch, W. Va.

COAL LANDS FOR SALE.—Fine coal land, Tennessee; 2 veins; railroad through property; adjoins operating mines each side; good title; favorable deal. Non-resident owners. Address No. 3004, care Manufacturers Record, Balto., Md.

2000 ACRES of coal lands for sale on head of Kentucky River, the Big Elkhorn. Seam of coal six to nine feet thick. Also 2000 acres near head of Rockhouse Creek; same county; same coal; four to six feet. Address J. H. Frazier, Whitesburg, Ky.

NEW RIVER-POCAHONTAS COAL LAND. Will sell from 30,000 to 50,000 acres. Smokeless, coking coal, within 800 feet main line railroad. Owner, Box 248, Hinton, W. Va.

50,000 ACRES of valuable coal land; about one-tenth of the acreage leased to four operating companies, the net income from which is about \$30,000 per year. With proper management this property will yield a very large income. Offered at an attractive price by P. A. Green & Company, 713 Mutual Building, Richmond, Va.

COAL AND TIMBER LANDS
FOR SALE OR LEASE—4500 acres valuable coal land. High-grade steam and coking coal; one excellent vein domestic coal, best in the South; low in ash, high in carbon. Four veins of coal, 4 to 6 ft. thick—drift mining. Demand in excess of supply. Eight million feet original-growth merchantable timber. Plenty of other timber for mine props. On N. & W. R. R. Pocahontas freight rate. Title perfect. Write for particulars. W. E. Harris, 420 Mutual Bldg., Richmond, Va.

SAWMILL AND TIMBER
FOR SALE—Large short-leaf yellow-pine plant, complete; one of the few left with 15 to 18 years operation in sight. Want to deal with legitimate buyers only. No commission. Address No. 3008, care Manufacturers Record.

TIMBER

FOR SALE—BY OWNERS.—Several tracts hardwood timber, white oak and chestnut oak, in boundaries from 2,000,000 to 15,000,000 feet, located on Chesapeake & Ohio Railway in Alleghany county, Virginia; also on branch Norfolk & Western Railway in Craig county, Virginia, and Monroe county, West Virginia. Address "Timber," P. O. Box 865, Charleston, W. Va.

GUM STUMPAGE FOR SALE. Estimated 42,000,000 feet, on 11,000 acres, along Little Missouri River. Large timber and good quality. On railroad. Price, \$60,000. Reasonable terms. J. G. Greene, Belrne, Ark.

WANT TO SELL 1,500,000 feet of white oak and gum and hickory in the tree; 4 to 7½ miles haul to Jackson, Tenn. J. H. Meriwether, Route 2, Jackson, Tenn.

LARGE quantity cedar for sale; can be sawed, and within 3 miles of main line Southern R. R. Also, body cottonwood timber. Address S. W. Heath, White Oak, S. C.

FOR SALE—About three hundred and seventy-five million feet of the highest grade and quality of virgin long-leaf yellow pine. For particulars address H. H. Wefel, Jr., Mobile, Alabama.

TIMBER LAND WANTED

LARGE TIMBER TRACTS.
OAK, PINE, POPLAR, HICKORY.
From owners for cash. I have clients ready to buy. Cruiser's report desired. 1000 acres and up. Low priced for cash. Alfred D. Hyde, Iselin, New Jersey.

TIMBER LAND

100,000,000 FEET choice hardwood timber. 15,000 acres virgin tract, above overflow, on R. R. For details address No. 3016, care Manufacturers Record, Balto., Md.

TIMBER LAND.—140,000 Ac. North Ark., guaranteed to cut 3500 ft. per Ac.; 75% white oak, bal. black and red oak and gum. Will pay for cruise. Perfect title; fee simple. Price, \$5.50 per acre; terms to suit. For details address No. 3017, care Manufacturers Record, Balto., Md.

50 SECTIONS TIMBER FOR SALE.—758,000,000 feet spruce, fir and pine. Suitable for pulpwood or lumber. For maps, price and other particulars address E. V. Tillson, Tillsonburg, Ontario.

FARM AND TIMBER LANDS SOUTHERN LANDS.

We are prepared to furnish desirable farm lands, undeveloped and developed, and stocked, also hardwood and pine timber and cut-over lands, in any size tract wanted. In Ala., Miss. and La. These lands are exceptionally cheap and offer an attractive opportunity for investment. We also have some large farms to trade for city property. We are anxious to get in touch with people interested in these classes of properties and solicit correspondence. Bailey-Jones Real Estate & Ins. Co., Birmingham, Ala.

4000 ACRES, half timber and half cut-over land, for sale, preferably as a whole or in tracts of not less than 1000 acres each; property joins the town of Surrency, Appling county, Ga., on Southern Railway main line; fine stand of both pine and cypress timber; ideal location for stock farm or combination mill and colony farming. Land in vicinity noted for its record production of staple crops. For sale by owner, attractive price and terms, especially if bought as a whole. Wm. Hurd Hillyer, Atlanta, Ga.

WE OWN LARGE TRACTS OF TIMBER LANDS, cut-over lands and colonizing lands. If interested, address H. H. Wefel, Jr., & Co., Mobile, Alabama.

STOCK FARMS

FOR SALE.—Ten thousand acres especially well adapted for a ranch, located South Alabama. If buyer stocks ranch, would require no payments for three or four years. Address H. H. Wefel, Jr., Owner, Mobile, Ala.

CATTLE RANCH

CATTLE RANCH FOR SALE.
67,000 acres improved ranch, stocked with high-grade Hereford cattle, at a bargain. 21,000 acres at \$3.40 per acre.
7,500 acres at \$4.00 per acre.
30,000 acres leased for a term of years.
Cattle will be sold at low figure to purchaser of ranch. \$35,000 cash will handle ranch.
Address Box 40, Marfa, Tex.

FRUIT, FARM AND TRUCK LANDS

CUBA

ORANGE GROVES AND SUGAR PLANTATIONS; 3 with houses ready for occupancy; all kinds of property from 2½ acres for \$25 up to millions. Hartley-Hellyer, Balto., Md.

FLORIDA

FREE "THE WINTER GARDEN OF AMERICA," to Fruit Growers, Truckers, General Farmers, Cattle, Hog and Poultry Raisers. Folks interested in the great Indian River Section of Florida write Indian River Farms Company, Suite O, 609 Putnam Bldg., Davenport, Iowa.

REAL ESTATE BARGAINS.

For high-grade orange groves, winter homes, city property, timber tracts, Florida cattle ranches and other properties of all kinds consult
The Waring Realty Co., Orlando, Fla.

RICH TRUCK LAND.—130 acres Indian River section; on R. R.; perfectly drained by canals. All or any part, \$35 per acre; half cash. For description write owner, G. M. Randall, M.D., St. Petersburg, Florida.

FOR SALE—13 acres finest trucking land in Florida, located in one of the most progressive towns in the leading section for truck crops, on main line S. A. L. Ry. and A. C. L. Ry. Crops purchased for cash at station platform. Land is ready for the plow and located within 3 blocks of post-office and new \$60,000 high school. Splendid hard-surfaced roads. Price very moderate and terms if desired. We are owners and not real estate dealers. Address Kilgore Seed Co., Plant City, Fla.

FOR A SAFE and permanent investment Florida lands and values should interest you. Manatee County is the best location, and is destined to become one of the most progressive settlements in the State and a very profitable investment. Florida farms in Manatee County are below frost belt; have rich soil, with 365 producing days. Easy terms. J. Henry Strohmeier, Maryland Casualty Tower Building, Baltimore, Md., and Sarasota, Florida.

FOR SALE—About 47 acres of valuable bearing grove of early and late Parson Brown and pineapple oranges and grapefruit; all in first-class condition. One of the best large groves in the State, and has a complete new, modern, efficient packing-house directly on the Seaboard Air Line Railway at Weirsdale, Marion County, Florida. Call by appointment on Dr. E. B. Lytle, Stanton, Florida, or write Alex. C. Thompson, Westley, R. I.

1240 ACRES—400 acres muck, 8 feet deep, equal to cow manure; balance gently rolling sandy loam for fruit and general farming; underlaid with clay; 1000 acres adjacent similar land produced average of 100 bushels corn per acre this year without any fertilizer. Particulars by mail. R. L. Martin, Ocala, Fla.

HANDSOME 16-acre place right in center of small growing town in South Florida. Tropical grove. New house. Boating and fishing on beautiful Dumbfoundling Bay. High school. Splendid business opportunities. E. Nolte, owner, Ojus, Fla.

FOR SALE.

6560 ACRES IN FLORIDA.
WHOLESALE PRICE.
WILL NOT RETAIL.

Located on the East Coast in Volusia County; price \$10 per acre; \$1 per acre down, balance \$1 per acre per year, 6 per cent, interest on deferred payments; 8 miles west of New Smyrna, Fla.; on the Orange City branch of the Florida East Coast R. R.; Indian Springs Station is only ¼ of a mile from it; 2500 acres are "prairie land." Has an elevation of about 22½ to 41 feet above the tide-water; top soil is a black sandy loam, underlaid with clay. Would make an ideal stock range. There are forty families farming in the adjoining sections; some have raised 45 to 50 bushels of corn to the acre, 60 barrels of Irish potatoes, and all kinds of garden truck, such as lettuce, beans, peas, Bermuda onions, besides good crops of rice, oats and grasses for feed. Title good. Owned in fee-simple, without incumbrance. Other information will be furnished upon request by E. C. Howe, 747 Hartford Bldg., Chicago, Ill.

FOR SALE—20,000-acre wholesale tract in Southern Lee Co.; great development and colonization possibilities; will be on Tamiami Trail, Southern Florida's new highway, \$7 per acre. A. G. Bander, Cedar Rapids, Ia.

FOR SALE—Ten acres of orange and grapefruit trees in full bearing on the Calcasieu River at Calcoosa. Price \$5000. Write C. A. Currier, Lexington, Mass., or E. H. Stevens, Calcoosa, Fla.

FLORIDA.—Do you intend visiting the land of health and sunshine this winter? If so, write M. J. Hoenig, Prop. Hotel Palma, West Palm Beach, Fla., for instructive booklet.

GEORGIA

2700 ACRES of fine dairy or cattle land 9 miles from Savannah can be bought at \$20 per acre. A bargain. Skedington & White, Savannah, Ga.

Classified Opportunities

FRUIT, FARM AND TRUCK LANDS

KENTUCKY

BLUE GRASS FARMS. Central Kentucky. All sizes and varieties. For homeseeker and investor. Advance seems absolutely certain. Buy now. Eugene Rucker, Georgetown, Ky.

MISSISSIPPI

AN ALFALFA FARM FOR SALE.—The richest, best located and most beautiful alfalfa farm in the alfalfa belt of Mississippi can now be bought for \$55 an acre, which is about half its real value. 700 acres. Nicely improved, in a fine neighborhood and in a high state of cultivation. Stanley Realty Co., Columbus, Miss.

NEW ENGLAND

GO and buy NEW ENGLAND FARMS. EAST Produce milk at 3c., sell 10c. qt. YOUNG and feed ten million people. MAN. S. F. Sherman, 52 Bway., New York

NORTH CAROLINA

FOR SALE.—By owner, 15 to 50 acres of good land, located near good road 4 miles from Asheville, 3 miles from Biltmore; four good springs of good water and branch running through; splendid opportunity for summer home in the mountains; good climate year round. Price, \$100 per acre. Address J. E. Keim, Asheville, N. C., R. D. No. 2.

TEXAS

C. H. MARTIN, the Texas land man, Jacksonville, Texas, sells and exchanges property from vacant lots to large ranches.

VIRGINIA

BUY A FARM IN VIRGINIA.—I offer several large farms suitable for dairy and stock farms. Demand in Richmond for milk greater than the supply. Long grazing season and rich corn lands make Virginia river plantations ideal stock and dairy farms. Investigate the conditions here before buying elsewhere. Information cheerfully given. Correspondence invited. Prompt replies. 70-acre James River farm, 15 miles from Richmond, 1 mile from railroad station. 500 acres in cultivation and grass; 300 is of the very best James River low grounds; 10-room house; barns and outbuildings. Write for description and price. 240-acre farm in Mecklenburg County; 150 acres in cultivation; very rich, productive land; near railroad station. Twelve-room dwelling and outbuildings. Can furnish large or small farms in any section of Virginia. Tell me of the kind of farm you want. W. E. Harris, 420 Mutual Bldg., Richmond, Va.

"VIRGINIA FARM."

Louden County farm. Blue grass section of the State. 250 acres, nearly all in cultivation. Every field watered by branch. Beautiful solid stone dwelling with bathroom, cedar-room, in most excellent condition; also stone tenant dwelling. Large spring. Good barns, etc. This farm is only three miles of Leesburg and 40 miles of Washington. Price \$18,000. Improvements alone would cost this amount.

J. A. CONNELLY & COMPANY,
SEVENTH AND FRANKLIN STREETS,
RICHMOND, VIRGINIA.

A 1130-ACRE FARM INVESTMENT.

Located in the Piedmont section of Virginia; 440 acres river bottom; 350 acres of oak, hickory and pine. The upland is good and lies well. Eastern markets promptly reached. Local markets excellent. This farm and its price should appeal to you if you ever expect to invest in farm lands. Let us send you full description. Robeson-Hall Land Co., Morristown, Tenn.

SPLENDID 400-ACRE Virginia farm; beautiful 10-room dwelling in large, shady lawn. Convenient to town, on public road. Will exchange for Chicago property. Pollard & Bagby, Inc., Richmond, Va.

FOR SALE.—High-class farm of about 300 acres; 2 1/2 miles from Gordonsville, Virginia. Good orchard, and grazing section. Price and terms inviting. Vaughan-Whitehurst Co., Richmond, Va.

DAIRY, CROP AND TRUCK FARMS.—SUBURBAN AND COUNTRY RESIDENCES. Good roads, mild climate, good labor conditions, desirable neighbors. Write us about the kind of place, large or small, you might sometime like to live on. Slaymaker-Schneider Corp., No. 612 King St., Alexandria, Va.

2700-ACRE FARM on James River, Va.; deep-water facilities; 1700 acres fine timber; 3000 acres high state of cultivation; well equipped; new barns, etc.; splendid rich man's estate. Apply for price, Green & Redd, Richmond, Va.

ATTORNEYS

RAYMOND M. HUDSON,
Washington, D. C.
Attorney.
Practice before U. S. Supreme Court, U. S. Court of Claims, D. C. Court of Appeals, D. C. Supreme Court, Va. and Md. Courts, Executive Departments, Congressional Committees, Federal Reserve Board, Federal Trade Commission, Interstate Commerce Commission. Cable "Rayhud."

AUCTIONEER

LANDOWNERS, executors, administrators, have you land for sale? We have a trained organization specializing in subdividing and selling land at auction. We get results. Write for details and references. Standard Realty Co., 508 Peters Bldg., Atlanta, Ga.

COLLECTIONS AND ADJUSTMENTS

COLLECTIONS AND ADJUSTMENTS MADE ANYWHERE IN THE SOUTH. CAREFUL ATTENTION GIVEN. To all claims entrusted to us on a straight commission basis. No membership fees, retainers or other bills for sale by charges.

SOUTHERN MERCANTILE ADJUSTMENT COMPANY.
UNION NATIONAL BANK BUILDING,
COLUMBIA,
SOUTH CAROLINA.

FINANCIAL

SOUTHERN MILL STOCKS.
\$100,000 high-grade 7 per cent. preferred, \$250,000 common stock in selected Southern mills for sale by
F. C. Abbott & Company,
19 years' experience in this field.
1001-1002 Commercial National Bank Bldg.,
Charlotte, N. C.

A SAFE INVESTMENT.
Steady and large dividends.
We offer 7% preferred and guaranteed stock, which also shares in all profits of the company. This means 10% to 20% now, and much more later. We grow the Albemarle Pippin, the finest apple in the world, made famous by Queen Victoria. It requires a combination of soil and elevation, which is very limited. It cannot, therefore, be overdone. We have developed the selling end of the business and ship boxed Albemarle Pippins to satisfied customers in thirty odd States and abroad. We need capital. It will pay you to write us for particulars. Pippin Co., Charlottesville, Va.

INCORPORATING COMPANIES

CORPORATIONS ORGANIZED under the broad, liberal and substantial laws of Delaware. Minimum original and annual expense. Estimates cheerfully furnished. Write for our revised DIGEST of the law.
CORPORATION COMPANY OF DELAWARE
Equitable Building, Wilmington, Del.

BUSINESS OPPORTUNITIES

FOR SALE.—The Lakeside Hotel and grounds, with or without a full-bearing 5-acre orange grove, located on south shore Lake Weir, Marion county, Florida, on Atlantic Coast Line Railway. A most healthy, attractive location. Hotel situated 90 feet above lake, which is 7 by 5 miles, abounding in fish and game, and surrounded by a white sandy beach. Call on F. C. Perrin, Lakeside Hotel, Weirsdale, Fla., or write Alex. C. Thompson, Treas., Westerly, R. I.

CARLISLE, PENNSYLVANIA, wants men; men of enterprise; men of vision who can establish rated industries. Co-operation will be given to the fullest extent. One of the lowest electric-power rates in the country. Baltimore freight classification. Educational advantages beyond the average city of 10,000 inhabitants. Address Carlisle Chamber of Commerce.

WANTED.—Partner with from six to eight thousand to invest with like amount in a lucrative manufacturing business. For particulars address Box 394, Anniston, Ala.

FOR SALE.—Warehouse containing 126 squares corrugated galvanized-iron roofing, 14,000 feet heart yellow pine lumber, car brick. H. T. McGehee, Carson, Miss.

HAVE YOU CASH to put in safe investment in South netting 10 per cent. and better? Address No. 309, Manufacturers Record, Balto., Md.

WE reorganize, refundance, consolidate and sell going manufacturing enterprises. Positions with investment offered. Have buyers for public utility and railroad properties of merit. Bankers' Holding Co., Syracuse, N. Y.

START A BUSINESS of your own in "Artisto" concrete marble and granite. See our exhibit at Chicago and Kansas City cement shows. Write Art Stone Co., Waynesboro, Pa. Box 300.

A HIGHLY SUCCESSFUL manufacturer of machinery proposes to build and equip a new, modern machine shop and foundry combined, and invites correspondence with manufacturers who would consider selling or consolidating in order to reduce their overhead charges and selling expenses. This is a fine opportunity for a small manufacturer of an established line to sell or consolidate with a large and well-rated manufacturer. Address No. 3015, care Manufacturers Record.

WILL PURCHASE desirable electric-light or gas property having established earnings, or finance consolidation of a group of such properties. Advise concerning present annual gross earnings and franchise conditions. Treasurer, P. O. Box 1136, Providence, R. I.

BUSINESS OPPORTUNITIES

WE WANT to get in touch with responsible real estate, insurance, bankers, brokers, financial and investment agents who will aid us in handling our clients quickly and intelligently in your section. Write us your facilities for handling business. Help us in perfecting our service system and you help yourself. Roger A. Jennings & Co., Financial and Investment Agents, Greensboro, N. C.

DOES YOUR CITY need a board of trade or chamber of commerce or revival of the existing organization? If so, write us. We organize and conduct campaigns for members and contributions for all civic improvements. National Civic Service Co., Peters Bldg., Atlanta, Ga.

BUILDINGS—STEEL PORTABLE

"PRUDENTIAL" STEEL BUILDINGS for all purposes; portable one-story construction; workshops, toolhouses, storage, garages, bunkhouses, etc. Write for Catalog A. C. D. Pruden Company, Baltimore, Md.

COLLEGES AND SCHOOLS

EXECUTIVES ARE IN DEMAND IN MODERN BUSINESS.—Many of the largest business organizations in the U. S. have adopted Pace Standardized Courses to meet their growing need for competent executives. To the ambitious man who is looking for advancement in modern business the opportunity presented by this nation-wide educational movement is unparalleled. You can take advantage of the same courses by direct enrollment. Instruction by mail—no interference with present employment. Free Bulletin (32 pp.) gives complete information. Ask for Bulletin M-5. Pace & Pace, Hudson Terminal, 30 Church St., New York

PATENT ATTORNEYS

EUGENE C. BROWN, ENGINEER AND PATENT LAWYER, 734 Eighth St. N. W., Washington, D. C. Graduate Engineer Lehigh University; Member Bar U. S. Supreme Court; Former Examiner U. S. Patent Office. PATENTS AND TRADEMARKS. Inventions considered from engineering and legal standpoints. Infringements and extent of patent monopoly investigated for manufacturers. Glad to answer any inquiries.

HIGH-VALUE PATENTS.

Patents that fully protect. Patents that Pay Largest Financial Returns are the kind we obtain. References. SUCCESSFUL INVENTORS and WELL-KNOWN MANUFACTURERS. Send 5 cents for new book of extraordinary interest and value to inventors. H. S. & A. B. Lacey, 33 Bartlett Building, Washington, D. C. Established 1869.

PATENT YOUR IDEAS.—\$9000 offered for certain inventions; book, "How to Obtain a Patent," and "What to Invent," sent free upon request; send rough sketch for free report as to patentability. We advertise your patent for sale at our expense. Chaudiee & Chaudiee, Patent Attorneys, 678 F St., Washington, D. C.

PATENTS.—Write for how to obtain a patent, list of patent buyers, and inventions wanted. \$1,000,000 in prizes offered for inventions. Send sketch for free opinion as to patentability. Our four books sent free upon request. Patents advertised free. We assist inventors to sell their inventions. Victor J. Evans Co., Patent Attorneys, 712 Ninth St., Washington, D. C.

PATENTS THAT PROTECT AND PAY. Advice and books free. Highest references. Best results. Promptness assured. Trade marks registered. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

NORMAN T. WHITAKER,
Attorney-at-Law and
Mechanical Engineer.
Former Assistant Examiner of Patents and Trade-Marks, U. S. Patent Office,
22 Legal Building (opposite Patent Office),
Washington, D. C.

INDUSTRIES WANTED

MISCELLANEOUS

SISTERSVILLE, W. VA., on the B. & O. R. R. and Ohio River, situated in the steel district of the United States, offers to all manufacturers: Electric power at 1/2c. per K. W. H., free factory sites up to thirty acres, 8c. natural gas, \$1.25 coal, and other equally cheap natural resources. It is the richest city in the United States per capita and one of the best governed. But this is not all. It possesses men whose co-operation is offered financially and otherwise—the type you will want to associate with as a business executive. Write Secretary Chamber of Commerce.

INDUSTRIES WANTED

MISCELLANEOUS

BALTIMORE FACTORY AND TERMINAL SITES.—Statement of Asa G. Candler, President The Coca-Cola Co.: "Investigation convinced us that Baltimore is not only the commercial metropolis for Southern trade, but that it affords shipping opportunities both by water and rail for domestic and foreign traffic superior to any of the great cities in any section of the United States." Locate in Baltimore and derive these advantages. We can provide accommodations to meet your requirements.

"OUR MOTTO":
FACTORY AND TERMINAL SITES
IN BALTIMORE

Wm. Martlen & Co.,
Ninth Floor, Lexington St. Bldg., Balto., Md.

FACTORY SITES

LARGE OR SMALL MANUFACTURING SITES at Richmond, Va. Water and rail transportation give low freight rates to all parts of the country. Good labor conditions; near raw materials; mild climate. 250 acres fronting James River for 300 ft. above high water; channel 25 ft. deep. Two miles of railroad will connect property with 6 trunk-line railroads. Will sell all or part of tract to manufacturer. For full particulars address W. E. Harris, 420 Mutual Bldg., Richmond, Va.

INDUSTRIAL PLANTS FOR SALE

ICE PLANT

FOR SALE.—Five-ton raw-water ice plant, run two seasons, in good condition, in a growing town. Good reason for selling. Robt. F. Maddox, Princess Anne, Md.

STEAM LAUNDRY

FOR SALE.—Old-established steam laundry plant in Covington, Va.; only laundry in town of 6000; business \$175 per week. Address R. N. Smith, 360 Bute St., Norfolk, Va.

MEN WANTED

IF ACTUALLY QUALIFIED for executive, manufacturing, technical or administrative position carrying salary between \$2500 and \$15,000, communicate with undersigned counsel, who will negotiate strictly confidential preliminaries for such positions. Not an employment agency; undersigned acts in direct confidential capacity. Send name and address only for prefatory details. R. W. Bixby, E. 1 Niagara Square, Buffalo, N. Y.

WANTED.—The services of a first-class mill man with manufacturing experience to take charge of mill which will be in operation within the next 15 or 20 days. Applicant must come well recommended and have financial interest in plant. None other need apply. Address No. 3005, care Manufacturers Record, Balto., Md.

WANTED.—Experienced asphalt roller. Steady work in Florida. Also two asphalt rakers. State experience and salary. Address No. 3019, care Manufacturers Record.

SITUATIONS WANTED

SALESMAN, 31; 9 years successful sales record; capacity for big business; well acquainted with hardware and mill-supply trade from Maine to Florida; best credentials, character and ability; open until Feb. 1st for permanent engagement with reliable house. Address No. 3018, care Manufacturers Record, Balto., Md.

WANTED.—Position as City Engineer or City Manager; 18 years' experience in railroad and municipal engineering; 4 years city engineer; A-1 reference. Address Box 649, Knoxville, Tenn.

FACTORY MANAGER or Superintendent in South. Increase your production and cut labor costs. Want big job. Address No. 3010, care Manufacturers Record, Balto., Md.

MACHINERY AND SUPPLIES

PUMPING PLANT

FOR SALE.—SECOND-HAND PUMPING PLANT.—24" Worthington single-acting centrifugal pump. 155 H. P. Babcock & Wilcox water-tube boiler. 240 H. P. Buckeye engine, vertical, cross-compound. Pumping capacity, 15,000 gal. per min. 36-ft. lift. Condenser, water heater, boiler feed pump and other attachments, complete. In perfect shape, ready to run. For particulars address P. O. Box No. 2, Pierce, Texas.

PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS

More Southern Proposal Advertising Is Printed In The Manufacturers Record Than In Any Other Paper

PROPOSALS FOR STEEL, IRON, STEEL
Pipe, Steel Cable, Wire, Poultry Netting, Nails, Rivets, Tacks, Copper Tubing, Sheet Copper, Sheet Lead, Sheet Zinc, Garbage and Refuse Incinerator, Motor-Generator Sets, Turnbuckles, Taps, Pliers, Files, Breast Drills, Planes, Snatch Blocks, Valves, Distress Outfits, Rubber Boots, Manila Rope, Zinc Sulphate, Paraffin Wax, Soap, Cotton Napkins, Paper Fasteners, Pencils, Stamp Pads, Mucilage, Index Books, Index Cards, Bond Paper, Carbon Paper, Iron Balustrades and Gates, Marble for Toilets, Door and Window Hardware, Toilet-Room Hardware, Millwork, and Lumber. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M. January 23, 1917, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and general information relating to this Circular (No. 1113) may be obtained from this office or the office of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La.; and Fort Mason, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala.; and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill.; and Commercial Club, Tacoma, Wash. EARL I. BROWN, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

Bids close February 12, 1917.

PROPOSALS FOR STRUCTURAL STEEL
and Miscellaneous Material for Pier No. 6, Cristobal, C. Z. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M. February 12, 1917, at which time they will be opened in public, for furnishing or furnishing and erecting the above-mentioned articles. Blanks and general information relating to this Circular (No. 1114) may be obtained from this office or the office of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La.; and Fort Mason, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala.; and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill.; and Commercial Club, Tacoma, Wash. EARL I. BROWN, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

Bids close February 26, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C.
January 15, 1917. Sealed proposals will be opened in this office at 3 P. M. February 26, 1917, for the construction of the United States postoffice at Bartow, Fla. Drawings and specifications may be obtained from the custodian of the site at Bartow, Fla., or at this office, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close March 1, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C.
January 15, 1917. Sealed proposals will be opened in this office at 3 P. M. March 1, 1917, for the construction of the United States postoffice at De Land, Florida. Drawings and specifications may be obtained after January 22, 1917, from the Custodian of the site at De Land, Florida, or at this office, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close February 27, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C.
January 16, 1917. Sealed proposals will be opened in this office at 3 P. M. February 27, 1917, for the construction of the United States postoffice at Stamford, Tex. Drawings and specifications may be obtained from the custodian of the site at Stamford, Tex., or at this office, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C.
January 10, 1917. Sealed proposals will be opened in this office at 3 P. M. February 21, 1917, for the construction of the United States postoffice at Mead, Ark. Drawings and specifications may be obtained from the custodian of the site at Mead, Ark., or at this office, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

PROPOSAL ADVERTISING INFORMATION

RATE: 25 cents per line per insertion.

PUBLICATION DAY: Thursday.

FORMS CLOSE 9 A. M. Wednesday. Copy received later cannot be published until issue of following week.

NIGHT LETTER: When too late to send copy by mail to reach us by 9 A. M. Wednesday, forward by night letter.

THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements.

The same rate applies—25 cents per line per insertion.

Bids close February 15, 1917.

\$8000 Road Bonds

Sealed bids will be received until 10 o'clock A. M. February 15, 1917, for \$8000 Jackson Township Road Bonds. For information address

G. A. MOORE,
Secretary Board of Road Commissioners,
Jackson, N. C.

Bids close February 3, 1917.

\$100,000 5% Bonds

Sealed bids will be received at office of First Ward Drainage District, Rayne, La., 3 o'clock P. M. Saturday, February 3, 1917, for purchase of \$100,000 worth 5 per cent. interest-bearing gravity drainage bonds, interest payable semi-annually, principal annually during period of 25 years.

Deposit of \$1000 required. Right and reserve to reject any and all bids.

WALLACE DUPONT, President.
L. J. CHAPPUIS, Secretary.

Bids close February 1, 1917.

\$80,000 Bridge, School and Fire Equipment Bonds

Sealed bids will be received by the City of Clifton Forge, Va., until two o'clock P. M. February 1, 1917, for the purchase of \$80,000 Bridge, School and Fire-Equipment Bonds.

Bonds to be dated February 1, 1917, and to mature February 1, 1947; optional at any interest period on and after February 1, 1932. Interest payable semi-annually.

Bids are asked for 4% per cent. or 5 per cent. bonds. Certified checks 2% per cent. to accompany bids. Right to reject any and all bids reserved. Address

T. P. HALLORAN,
Chairman Finance Committee.

Bids close February 5, 1917.

\$25,000 5% Bonds

Notice is hereby given that the Board of County Commissioners of Johnston County, State of North Carolina, will receive sealed bids until 12 o'clock M. February 5, 1917, for the sale of \$25,000 five per cent. Road Improvement Coupon Bonds, interest payable semi-annually, and maturing in thirty years.

A certified check for 2 per cent. must accompany the bid.

Said bonds will be sold at the Courthouse door, in the City of Smithfield, on the 5th day of February, 1917.

The County Commissioners reserve the right to reject any or all bids.

By order of the Board of County Commissioners.

SAML. HONEYCUTT,
Clerk Board County Commissioners.

Bids close February 13, 1917.

\$16,000 5% Bonds

St. Joseph, La., Jan. 11, 1917.

The undersigned Committee of the Police Jury of Tensas Parish, Louisiana, will receive sealed proposals at the Courthouse in St. Joseph, Louisiana, at the hour of 12 o'clock noon on Tuesday, February 13, 1917, for the purchase of \$16,000 refunding bonds of said parish, bearing 5 per cent. interest per annum, payable semi-annually, of the denomination of \$100 each, five payable annually for 25 years and 15 payable the 30th year; same to sell for not less than par.

Bids will be received for any portion of the above issue, or the whole thereof. Said bids to be accompanied with certified check for 10 per cent. of the amount bid for.

The committee reserves the right to reject all bids.

F. H. CURRY,
E. B. COLEMAN,
E. F. NEWELL,
Committee.

Bids close February 15, 1917.

\$8000 6% Bonds

Sealed bids will be received by the Town of Madison, North Carolina, for eight thousand dollars thirty-year six per cent. bonds, dated nineteen eight, interest payable semi-annually, denomination one thousand dollars. Bids to be accompanied by certified check for five hundred dollars, payable to the Town of Madison. Reserve the right to reject any and all bids. Bids will be closed February fifteenth, nineteen seventeen. Address T. D. Meador, Madison, N. C.

Bids close February 16, 1917.

\$100,000 Bridge Bonds

Pursuant to an act of the General Assembly of North Carolina, enacted at its present session, the Board of County Commissioners of Gaston County will receive sealed bids Friday, February 16, 1917, at 12 o'clock noon, for an issue of one hundred thousand (\$100,000) dollars coupon bonds. The issue to be serial bonds, and to bear not more than five (5) per cent. interest. The first installment to be four thousand (\$4000) dollars, payable at the fifth year, and annually thereafter the payment of four thousand thousand (\$4000) dollars, until the issue be liquidated. The interest to be paid semi-annually.

The issue is for the purpose of bridge building.

Certified check for not less than 2 per cent. of the amount of the bid must accompany all bids. The right to accept or reject any or all bids is reserved by the Board. No bids will be considered for less than par.

Any desired information regarding this issue will be furnished by the Clerk.

O. B. CARPENTER,
Clerk to Board.

Gastonia, N. C., January 13, 1917.

Bids close February 3, 1917.

\$40,000 5% Bonds

NOTICE—SALE SCHOOL BONDS.

Until 12 M. on Saturday, the 3d day of February, 1917, sealed bids will be received at the office of the County Judge of Campbell County, Tennessee, in Jacksboro, Tenn., for the \$40,000 School Bonds to be issued under resolution of the Quarterly County Court of Campbell County, Tenn., as provided under Chapter 60, Acts of 1911, State of Tennessee, which being authorized by resolution of said Quarterly County Court in January, 1917, said bonds to be issued in denominations of \$500 each, and become due first day of January, 1942, bearing interest at rate of 5 per cent. per annum, payable semi-annually, place of payment to be agreed upon. Said bonds will be exempt from taxation for State, county and municipal purposes in Tennessee, and sold for not less than par and accrued interest. The sale will be made strictly in accordance with the provisions of the above-named act of the Legislature of the State of Tennessee, and said resolutions of the Quarterly County Court thereunder. A certified check for two per cent. of amount bid, payable to L. M. Baird, Trustee for Campbell County, must be filed with any bid. The right is reserved to reject any or all bids.

Witness my official signature at office in Jacksboro, Tenn., January 2, 1917.

WM. ALLEN,
County Judge.

Bids close January 22, 1917.

\$760,000 4½% Bonds

Fairmont, W. Va.

Sealed bids will be received until noon January 22, 1917, by J. Walter Barnes, Commissioner of Finance, for \$760,000 4½ per cent. City of Fairmont bonds, dated January 1, 1917.

Write for detailed information.

Bids close January 23, 1917.

Hauling

STATE OF MARYLAND,
STATE ROADS COMMISSION.
NOTICE TO CONTRACTORS.

Sealed proposals for hauling out approximately 27,700 tons of stone chips for oiling State roads as follows:

WORCESTER COUNTY—Contract No. 1-A.—535 tons.

WICOMICO COUNTY—Contract No. 2-A.—475 tons.

SOMERSET COUNTY—Contract No. 3-A.—855 tons.

DOIRCHESSTER COUNTY—Contract No. 4-A.—2296 tons.

TALBOT COUNTY—Contract No. 5-A.—948 tons.

CAROLINE COUNTY—Contract No. 6-A.—1766 tons.

QUEEN ANNE'S COUNTY—Contract No. 7-A.—2062 tons.

KENT COUNTY—Contract No. 8-A.—1251 tons.

CECIL COUNTY—Contract No. 9-A.—1962 tons.

HOWARD COUNTY—Contract No. 10-A.—2526 tons.

MONTGOMERY COUNTY—Contract No. 11-A.—2622 tons.

FREDERICK COUNTY—Contract No. 12-A.—5132 tons.

CARROLL COUNTY—Contract No. 13-A.—1932 tons.

WASHINGTON COUNTY—Contract No. 14-A.—3256 tons.

Will be received by the State Roads Commission at its offices, 601 Garrett Building, Baltimore, Maryland, until 12 M. on the 23d day of January, 1917, at which time and place they will be publicly opened and read.

Bids must be made upon the blank form contained in the book of specifications. Specifications and plans will be furnished by the Commission upon application.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

By order of the State Roads Commission this 9th day of January, 1917.

FRANK A. ZOUC, Chairman.
CLYDE H. WILSON, Secretary.

Bids close January 30, 1917.

State Highway and Bridge

STATE OF MARYLAND,
STATE ROADS COMMISSION.
NOTICE TO CONTRACTORS.

Sealed proposals for building three sections of State Highway and one Bridge, as follows:

Contract No. C-22—CECIL COUNTY: One section of road leading from the State Road south of Calvert to Sylmar, Pennsylvania, about 1.33 miles in length. (Concrete only.)

Contract No. K-9—KENT COUNTY: Chestertown Road, from the end of the new work near Fairlee towards Rock Hall, about 3.57 miles in length. (Concrete only.)

Contract No. D-13—DOIRCHESSTER COUNTY: One section of road through East New Market, about .73 of a mile in length. (Concrete only.)

Bridge.

Contract No. 0266—KENT AND CECIL COUNTIES: One bridge over Sassafras River, between Georgetown and Fredericktown, and approximately 750 feet long. Timber piles cut at water line and capped with concrete piers and concrete superstructure; also, foundation piers for draw span.

Will be received by the State Roads Commission at its offices, 601 Garrett Building, Baltimore, Maryland, until 12 M. on the 30th day of January, 1917, at which time and place they will be publicly opened and read.

Bids must be made upon the blank form contained in the book of specifications. Specifications and plans will be furnished by the Commission upon application and cash payment of \$1, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of five hundred (\$500) dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

By order of the State Roads Commission this 10th day of January, 1917.

FRANK H. ZOUC, Chairman.

CLYDE H. WILSON, Secretary.

Bids close January 29, 1917.

Vitrified Brick Paving

Sealed bids will be received by the Board of Public Works of Gainesville, Florida, until January 29, 1917, at 7:30 P. M., for approximately 15,000 square yards of vitrified brick paving on West University Avenue. Specifications may be obtained from I. E. Webster, Secretary. Certified check for \$1000 must accompany each bid. The right to reject any or all bids is reserved.

H. E. TAYLOR,
Chairman Board Public Works.
G. H. CAIRNS,
City Engineer.

PROPOSALS

SEWERS WATER-WORKS ELECTRIC LIGHT PLANTS BRIDGES

More Southern Proposal Advertising Is Printed In The Manufacturers Record Than In Any Other Paper

Bids close Feb. 6, 1917.

Highway Construction

Scaled proposals, on blank forms attached to specifications, will be received by the Board of County Commissioners of Taylor County, Florida, at the office of the Clerk of Court, Perry, Florida, for the construction of improved highways in Taylor County, Florida.

Said proposals will be received until ten (10) o'clock A. M. February sixth (6), 1917, at which time they will be opened and read publicly. Contract will be awarded as soon as practicable thereafter.

Bids will be asked for as follows:

Approximately—458,537 lin. ft. roadway, 34 miles.

Approximately—101,545 cu. yds. excavation. Approximately—605,406 cu. yds. embankment.

Approximately—443,693 sq. yds. pavement, surface treated macadam.

Approximately—917,074 lin. ft. wooden curb (sunken).

Approximately—1425 Hn. ft. drain pipe, 15" to 30".

Approximately—1640 lin. ft. pile to be driven.

Approximately—87.3 M. ft. lumber for bridge construction.

Approximately—362.3 cu. yds. concrete, class "A."

Each bid must be accompanied by a certified check on a State or a national bank, or any other approved bank, for five (5) per cent. of the amount bid, except if such should exceed ten thousand (\$10,000) dollars, then said check may be drawn for said ten thousand (\$10,000) dollars, drawn to the order of the Clerk of Court, John C. Calhoun.

Plans and specifications may be seen at the office of Clerk of Court, Perry, Florida, and at office of Engineer W. A. Sanders, Perry, Florida. Copies of the specifications may be obtained from either above stated

offices upon application for same. Copies of plans may be obtained from engineer's office, Perry, Florida, upon receipt of ten (\$10) dollars.

The right is reserved by the Board of County Commissioners to reject any or all, or any portion of bids, or accept any bid that may be to the best interest of Taylor County.

BOARD OF COUNTY COMMISSIONERS,

Taylor County, Florida.

J. N. DEAL, Chairman.

JOHN C. CALHOUN, Clerk.

W. A. SANDERS, Engr., Perry, Fla.

Bids close February 6, 1917.

Timber Draw Bridge

Scaled bids will be received by the Board of County Commissioners of Palm Beach County, Florida, at the Clerk's office, at West Palm Beach, Florida, up to 12 o'clock noon Tuesday, February 6, 1917, for furnishing all material and labor and the construction of a Timber Draw Bridge over the Florida Coast Line Canal, known also as Jupiter River, at Jupiter, Florida, according to plans and specifications for same on file in the Clerk's office. Copies of the plans and specifications may be obtained from the Clerk on deposit of \$7.50, which amount will be refunded upon return of the plans and specifications in good order or before the day for opening bids.

A certified check or bid bond in a sum equal to two per cent. of the bid will be required to accompany each bid, and shall run to the order of the Board of County Commissioners, as a guaranty of good faith, and will be forfeited if the bidder fails to enter into contract and furnish satisfactory bond within the time specified, if the contract be awarded him by the Board.

A form of bidding blank is attached to the specifications.

The Board reserves the right to reject any

irregular bid or bids not complying with the specifications.

By order of the Board of County Commissioners.

TREVETTE A. LOCKWOOD, Chairman.

GEO. A. BUTLER, Clerk.

(Seal County Comm.)

tions, together with proposal forms, may be had on or after the above date from H. Hastings Mundy, architect, 236 12th street, upon payment of a deposit of fifty (\$50) dollars. To depositors returning sets of plans and specifications in good condition, thirty-five (\$35) dollars will be refunded.

The Board of Directors will receive bids upon the proposed building until 7.30 P. M. February 26, 1917. A bid bond in a sum equal to 25% of the amount of the contractor's highest bid in the list of alternates will be required to accompany the contractor's bids, to stand as a guarantee that the contractor, if successful, will enter into a contract in accordance with the proposal forms furnished with the specifications. Said bond is to be from a well-known surety company, authorized by law to transact business of this character in the State of Florida.

January 5, 1917.

MEN WANTED

If you are looking for a position, read this department in our Classified Opportunities every week. Should an opening not be there that is entirely to your liking, advertise for it under "Situation Wanted."

Manufacturers Record

ADVERTISEMENTS

RECEIVED TOO LATE FOR CLASSIFICATION

YOU NEED THIS

150 K. W. 1200 R. P. M. 3-phase 60-cycle 240-volt Bullock Alternator with Belted Exciter and Switchboard.

150 K. W. 1200 R. P. M. 3-phase 60-cycle 2200-volt Westinghouse Alternator with Belted Exciter and Switchboard, late type.

1 1/2 H. P. 115-volt D. C. Crocker-Wheeler Motor, direct connected to a Centrifugal Pump. Price, \$80, York.

1 Fairbanks-Morse Co.—Producer—Type H-58 Anthracite Suction Gas Producer.

Engine—3-cylinder Vertical, Type RE, Special Electric.

Alternator—50 K. W., 3-phase, 60-cycle, 230-volt, 300 R. P. M.; No. 17791; 135 Amp.; complete with Exciter. Like new, hardly used. Shipping point, near York.

100 K. W. 3-phase 60-cycle 220-volt 900 R. P. M. Northern Electric Co. Alternator, complete with pulleys, bases, rheostats, exciter. Now in operation. Quick delivery.

Immediate delivery—First come, first served.

GEO. F. MOTTER'S SONS
York, Pa.

Wanted Work

For 75-Mule Team Outfit


Southern Shops Seeking Contract Work

Castings, Stampings, Forgings, Machine Work, Metal Specialties

IN ADDITION TO HANDLING LOCAL JOBS OF THIS KIND, THESE FIRMS
ARE OPEN FOR SPECIAL ORDERS FOR OUTSIDE CONTRACT WORK

WE MAKE A SPECIALTY OF
High Grade Grey Iron and Semi-Steel Castings
Also All Kinds of Machine Work. Special Machines Made
to Order. Prices Will Suit You. Prompt Service.
Salem Foundry & Machine Works Salem, Va.

Kansas City Hay Press Company
FOUNDRY DEPARTMENT
GREY IRON **CASTINGS** SEMI-STEEL
KANSAS CITY, MISSOURI



CASTINGS
Gray Iron and Semi-Steel
Well-Equipped
Foundry and Machine Shop
Established 71 Years
JANNEY & CO.
MONTGOMERY, ALA.

**Machine and Foundry
Contract Work
WANTED**

Thoroughly equipped with
modern machine shops and
foundry, and can render
prompt and efficient service.

Also build machinery and
carry a full line of mill
supplies.

STRATTON & BRAGG CO.
PETERSBURG, VA.

**Machine—Structural, Chemical
and Municipal Castings**
Special Machinery Built to Order
Daily Foundry Capacity 50,000 lbs.
Castings from 1 to 10,000 lbs.
We have just finished large East-
ern contract and can handle
others promptly.
Withers Foundry & Machine Wks.
ATLANTA, GA.

We Are Prepared
**To Furnish Cast-
ings, Do Machine
Work, Boiler and
Tank Work**
and invite inquiries
for this class of work.
J. S. Schofield's Sons Co.
MACON, GA., U. S. A.

**American
Forgings Company**
Manufacturers of
**TURN BUCKLES
SPECIAL FORGINGS
DROP FORGINGS**
Main Office Works
BIRMINGHAM, ALA.

CASTINGS
GREY IRON
From 1 to 500 lbs. Will take work
for prompt delivery.
ALL KINDS OF GRATE BARS
T. A. KERNS & CO.
SOUTH BOSTON, VA.

**Grey Iron Castings
Machinery
Structural and Ornamental
Castings up to 5 tons**
PATTERNS OF ALL KINDS
**CHATTANOOGA ROOFING &
FOUNDRY CO.**
CHATTANOOGA, TENN.

**Pyrites Burners, Lump or Fine
ACID EGGS and NITER POTS**
All Sizes

MARINE CASTINGS
SEWER CASTINGS OF ALL DESCRIPTIONS
THE CAROLINE FOUNDRY CO. Baltimore, Md.

**STRUCTURAL AND ORNAMENTAL IRON
GRAY IRON CASTINGS**
FROM 1 TO 10,000 POUNDS
Write for Estimates
ROANOKE IRON & BRIDGE WORKS, Inc. Roanoke, Va.

If you wish to keep posted on the
progress of the South read the
MANUFACTURERS RECORD
Price \$4.00 a year, or six months for \$2.00

COLUMBUS IRON WORKS
GREY IRON AND SEMI-STEEL
CASTINGS UP TO 20 TONS
Also Machine Work
COLUMBUS, GA.

Cleveland Machinery & Supply Co.
GENERAL MACHINISTS
And Jobbers of Mill and Machinery Supplies.
Do Contract Work and Furnish Material.
CLEVELAND, TENN.

We are especially well equipped to do
machine work and furnish castings. Our
low freight rate via water to New York
makes cheap delivery at that point.
Can make prompt deliveries anywhere.
Wilmington Iron Works, Inc.
Wilmington, North Carolina

CONTRACT WORK
**Gray Iron or Semi-Steel
Castings**

Have well-equipped machine shop.
Will take work for immediate
delivery.

Cumberland Foundry & Mfg. Co.
NASHVILLE, TENN.

Tin and Galvanized Buckets,
Boxes, Cans, etc.
SPECIAL STAMPINGS.
PHILLIPS & BUTTORFF MFG. CO.
Nashville, Tenn.

GREY IRON CASTINGS
From 1 to 1000 Pounds
Machine Tool Castings a Specialty
SOUTHERN FOUNDRY CO.
OWENSBORO, KY.

**If You Would Like to Know Whether
An Advertisement in This Department**

PAYS

Write us for the opinion of advertisers in it.
Their testimony will convince you that you are
overlooking valuable and profitable business if
you are in a position to handle some

CONTRACT WORK

Rates and full information upon request.